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See Page 2

VOL. LXXX No. 2070

[Registered at the G.P.O.
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LONDON, NOVEMBER 29, 1958

PRICE NINEPENCE

CURRENT TOPICS

The Best Interests of Industry

THE November business meeting of the British Transport Commission was held in the Sheffield and Leeds area, opportunity being taken to see railway installations in Yorkshire as well as the mechanical coal handling plant at the Nunnery Yard of Burnett and Hallamshire Fuel, Limited, where an automatic coupling by English Steel Castings Corporation was demonstrated. At a dinner given to Sheffield industrialists, Sir Brian Robertson, chairman of the Commission, reminded them that responsible people in France, Germany and Italy were not talking about railways being outdated; on the contrary, further sums were being freely spent to extend the progress already made. At home, because the railways were having a rough time, not through their own fault, the opportunity was being seized in some quarters to say that money spent on modernisation should be reduced. But the sums were not vast by comparison with what was to be spent on the roads and in view of the long period when no money was available to maintain the railways in decent condition. Although the Commission did not try to persuade people to send traffic by rail which could go better by other means of transport there was no substitute for rail as a method of mass movement for passengers or goods. Railway improvement showed good results, as evidenced by multiple-unit diesel trains or by the Manchester-Sheffield electrification, which had increased revenue 50 per cent. The point he would persist in making, he concluded, was that industry needed a soundly based and extensive public haulage service. It was in its best interests to encourage the public haulier by rail, road and water, each of which had an essential role to play.

Inefficiency at Smithfield

THE pitchers and bummares at Smithfield Market are self-employed and are a law unto themselves. According to the Committee of Inquiry, appointed earlier this year by the Minister of Transport under the chairmanship of Mr. R. M. Wilson, Q.C., they are the cause of industrial unrest which is seriously impairing the market's efficiency and imperilling its future prosperity. The pitchers carry the meat into the market and the bummares are employed mainly in carrying it out for retailers. The market bye-laws allow retailers and their full-time employees to carry their own meat out of the market but, according to the committee's report (Stationery Office, 2s. 6d.), the Transport and General Workers' Union decided unilaterally that only the bummares should carry the meat, and this despite a legal ruling to the contrary. The committee regards the union's conduct as "quite indefensible" and says that the retailers had every justification for feeling incensed. It is wrong, the report states, that the union should restrict the number of bummares. It proposes that, pending the introduction of a scheme to place these men under the full control of an employer, retailers should be allowed to carry out as much meat as they personally can carry and their employees should be permitted to do so when it can be shown to the market superintendent that no bummares are available. The union should also refrain from preventing retailers from employing porters on a full-time basis. That the significance of the inquiry and its implications were not lost on the union is shown by the latter's suggestion that a portage committee should be set up representative of all the market interests and under the chairmanship of the market superintendent. Acceptance of this proposal is one of the committee's recommendations.

Busmen and the Public

AT long last it may be dawning on the Smithfield men that co-operation with the employers must pay better in the long run than self-interest and no regard for the consequences. The committee hopes that now that grievances have been thoroughly ventilated all concerned will collaborate in trying to eliminate existing defects in the

organisation. It points out that only if the task is tackled with determination and goodwill can the prosperity of the market and of those who work in it be assured. Just as there are alternative markets so there are other means of transport, and in another section of London labour—the busmen—the lesson unfortunately has yet to be learned. Alleging that the London Transport Executive, in endeavouring to economise, is cutting services without regard to the public interest, the men themselves flout public opinion by seeking to end the present arrangement regarding a modest number of standing passengers during peaks. They stubbornly refuse to face the gradual decline in bus

more sharply in other world capitals with a high standard of living. The wish for personal independence of transport is father to the thought; translated into action, the move towards personal transport is rapidly gathering momentum. The position of the bus in London is complicated by the existence of an Underground network constructed at a very high cost and impossible to operate at a profit. Traditionally, therefore, the bus has had to subsidise the essential Underground (although today it is believed that the two are closer to equilibrium) and this factor exerts its influence in the economies, or retrenchments, which are now being made. Traffic congestion, which has mounted

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traffic, which their strike last summer served to expedite. If services have been cut as drastically—and inconsiderately—as the men allege then refusal of standees and delays caused by non-co-operation with the road inspectors may arouse such anger and resentment as to create still further traffic losses which must accentuate loss of employment. The T. and G.W.U., which ought to know better, has circulated 250,000 copies of a pamphlet alleging that the service cuts will mean long waits for the public and possible friction between them and bus crews. The L.T.E. in fact is charged with planning to remedy its financial difficulties by providing inadequate services. In bolstering up this mischievous contention the pamphlet states that buses now providing peak-hour services in the Strand would be cut by a third and in Oxford Street by a quarter. This is, of course, greatly exaggerated. The cuts are largely confined to the off-peak periods, and so far as the peak hours are concerned the Executive has pointed out that reductions in the Strand peak would be about one-tenth and that Oxford Street peak services will be reduced by only 8 per cent. The facts are that the Strand will have 129 buses an hour in each direction at the peak periods instead of perhaps 140 hitherto (allowing for scheduled buses not run because of staff shortage) and Oxford Street 195 instead of about 210. Further details appear on page 4.

Hard Facts Behind the Cuts

SINCE 1950 London Transport has been pruning its road services in accord with an evident decline in public demand, but the cuts have always been less than that decline would justify. Now, with perhaps two million fewer passengers each day on the buses and trolleybuses than in 1950 the axe must come down more heavily. The principal causes for this melancholy state of affairs are well known—television, cars and scooters. It is not a phenomenon peculiar to London, but one reflected throughout Britain and

sharply since autumn, adds to operating costs; it is heartening to learn that London Transport has in no wise abandoned its belief in the bus as an economic user of road space—in that respect it is fighting the battles of the provincial undertakings also. Critics of the London bus should have it punched home that in the U.S.A., where our problems are old stuff, there is a growing conviction that public transport and not the private car should be the favoured medium of mass movement in city centres.

Road Repairs Deserve More Cash

BRITAIN'S classified road system is in danger of breaking up unless the Government gives local highway authorities more money for repair work. Over five years ago we suggested in these columns that there was a danger of our highways resuming their "founderous" 18th-century condition if something were not done. Lord Derwent, chairman of the British Road Federation, has called on the Minister of Transport to increase road maintenance grants next year. He points out in his letter to the Minister that this year's grants were considerably lower than in 1957-58 and that highway authorities had in consequence great difficulty in keeping roads in a reasonable condition. In this matter, the Federation's voice is added to that of the local authorities, who have protested strongly to the Minister about the effects of the reduction in grants this year. Lord Derwent refers to a survey recently conducted by the Federation. The results covered more than half the grant-aided roads in England and Wales and showed that in every case the present level of grant was too low for all essential work to be undertaken. He asks the Minister to recognise the difficulties caused by inadequate grants and, in the coming year, to increase them at least to the equivalent of 1957-58—the peak postwar year. Such an increase is more than justified by the ever-growing volume of traffic using the road system.

Friction Research

FORMING what is probably the most comprehensive facility in the world for the scientific study of friction phenomena and the development of friction materials, a new research centre established at its Chapel-en-le-Frith headquarters by Ferodo, Limited, was opened last week by His Royal Highness the Duke of Edinburgh. Covering two acres of floor space and built at a cost of £750,000, the new centre brings together under one roof the company's chemical, physical and experimental production laboratories, a test house, a test vehicle garage, a drawing office, workshops, library, conference room and administrative offices. Its work will be of benefit not only to the motor industry but to railways, aviation, mining and every other industry employing machinery that must be brought to a safe stop, for the company's current production of a million items a week ranges from disc-brake pads for aircraft and racing cars to brake blocks for cycles and from sintered-metal clutch facings for giant earth movers to brake pads for spin driers, in addition to brake blocks for London Underground trains, stair treads for public service vehicles and brake linings for all types of road vehicles, colliery winding gear and so on. Effective research has always been a feature of the Ferodo company's activities and the new centralised facility, which embraces fundamental research into friction and raw materials as well as improvement of existing and development of new products, will ensure that the power to stop, at least insofar as the friction materials involved are concerned, keeps pace with the increasing performance of machines in other directions.

Tramway Advocacy Comes of Age

APPROPRIATELY held within a few yards of the route of George Francis Train's first tramway in London, that along Bayswater Road, the twenty-first birthday celebration of the Light Railway Transport League took the form of a dinner over which the newly elected president, Mr. Chaceley T. Humpidge, general manager of Bradford City Transport, presided. Proposing the Light Railway Transport League, Sir Patrick Dollan spoke proudly of the tramway system of Glasgow, which since its municipalisation in 1894 had paid £5,822,515 in local rates, plus £1,458,077 to the Common Good Fund and £2,530,556 in property tax. The tramways helped to make Glasgow the second city in the Commonwealth and it was not right that in an island country they should be abandoned for buses dependent upon oil from overseas at the very time when electrical energy cheaply produced from nuclear stations was about to become available. He thought more would be heard of the protests on that subject. Reaffirming belief in the tramcar Mr. J. W. Fowler, founder and chairman of the League, said there were 95 present at table, a nice load for a Blackpool car. Major C. S. N. Walker, speaking to the toast, "The Passenger Transport Industry" dated its origin to the 18th-century Royal Mail coaches and touched on such matters as tramway operators relieving the rates rather than developing their own businesses and the man in the street "knowing" more than management, so that transport became the plaything of politicians. In his response Mr. Humpidge blamed much of the sad story of tramways here upon the iniquitous Tramways Act of 1870. Mr. R. K. Kirkland sang the praises of "Modern European Tramways" for their capacity and comfort, to which Mr. G. A. Meier, chief engineer, Zurich Tramways, replied. He was building 32 new cars and had a prototype articulated unit in which three now did the work of 200 private cars. Mr. G. B. Claydon dealt with "The Guests and Ladies" to which Mr. Charles F. Klapper and Mrs. B. Jackson responded. A pleasing feature of the evening was a presentation from members to Mr. J. W. Fowler, while Mrs. Jackson produced a birthday cake in the form of a tramcar.

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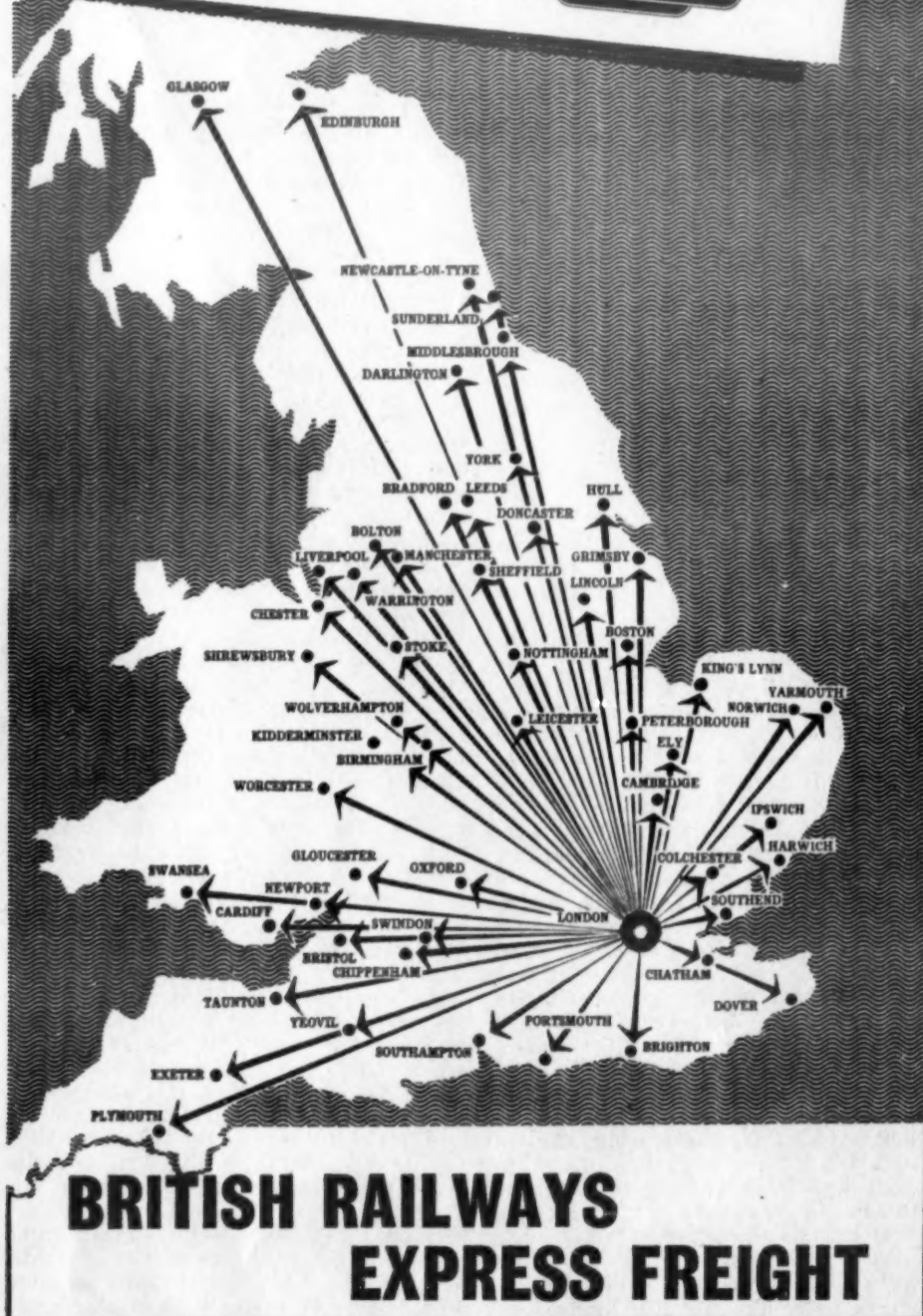
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The Editor is prepared to consider contributions offered for publication in MODERN TRANSPORT, but intending contributors should first study the length and style of articles appearing in the paper and satisfy themselves that the topic with which they propose to deal is relevant to editorial requirements.

New Ways for London

IT is quite conceivable that the Romans had traffic troubles in their more or less regular gridiron city of Londinium. Congestion certainly made itself apparent in the London of the late middle ages, but Wren's attempt to remodel the street plan fell down on the problems of cost and disposssession that have been uppermost in all subsequent projects. Progress with street widening and even the building of new thoroughfares such as Holborn Viaduct, Queen Victoria Street, the Embankment and Shaftesbury Avenue was a marked feature of the Victorian era; this phase was brought to a close with the energetic efforts of the London County Council with the two under-river tunnels and the Kingsway—Aldwych scheme. Then for half a century action gave way to paper projects and the principal practical achievements were in the nature of bridge reconstruction and minor widenings. In that period some of the brave schemes of the Road Board, the Bressey Report and the Abercrombie Plan made fleeting public appearances before consignment to the pigeonhole. Some of those now being put into effect are up to half a century old in conception and often, alas, owing to inattention to the science of traffic engineering (Watson's textbook, *Street Traffic Flow*, is a quarter-century old) based on census figures that were current long since and are now completely outmoded.

Work in Hand

HAPPILY, in the second half of the 20th century, we are able to see road improvement works and new schemes taking shape once more. Work is in hand on such schemes as the Cromwell Road extension and its flyover to the Great West Road, on the modernised Blackwall Tunnel approach, the new Hyde Park Corner, the Elephant and Castle roundabouts, Notting Hill Gate, the widening of the western end of the Strand, and the betterment of the north-western exits to the London-Birmingham motorway. More modest projects of the London County Council include the widening to 65 ft. of White Horse Road which enables traffic to flow between Rotherhithe Tunnel and Stepney Green and a new and more adequate exit from the Isle of Dogs industrial and dock area into West India Dock Road. The sum total of proposals now officially approved would no doubt be of a most impressive order in relief to traffic congestion, mileage and cost. Yet the flow—nay, flood—of motor vehicles on to the roads of the Metropolis is outstripping all the projects. Journeys across the London area are taking appreciably longer than they did less than a year ago and peak-hour traffic jams are ever developing at junctions where traffic formerly moved freely. This autumn parts of the inner area, from Euston Road to Kennington Gate and from Edgware Road to Shoreditch High Street appear to have suffered an undue share of the frustrating congestion where junctions do not clear, so that the conflicting stream of traffic misses one or more cycles of the traffic lights. Without being alarmist, this is getting close to that "grinding to a stop" with which we have long been threatened.

Alleviation

WHILE the possession of one's private means of transport may be the most laudable of legitimate ambitions, the selfish use of cars and motor-cycles adds to the journey time of all road users. Selfish parking on busy thoroughfares further enhances the confusion of the streets and besides greater development of off-street parking there seems scope for insistence upon unilateral parking (if any) in many thoroughfares where two commercial vehicles cannot pass between the double lines of standing vehicles. Operators of lorries and vans are doing something to help themselves, witness

MODERN TRANSPORT NOVEMBER 29, 1958

the T.R.T.A. "speed the van from the kerb" campaign, but there are other obstructive vehicles, such as refuse collectors—especially in those boroughs where they hunt in couples, one down each side of a street—which might possibly be voluntarily removed from the busier streets during the periods of peak congestion. By moving 60 to 70 passengers at a time the bus shows far greater economy of road space than the private car and despite the gloomy views on its future of the chairman of the London and Home Counties Traffic Advisory Committee it would more than justify encouragement. In the approaches to and passage through some of the congested road junctions the borrowing of the idea of reserved bus lanes from the United States would simultaneously make the bus more attractive and discourage the private motorist without imposing distasteful and probably quite unfair bureaucratic restrictions. On top of all this there is, as we have stressed on previous occasions, room for numerous minor improvements such as realignment of kerbs by a few feet (or sometimes only a few inches) which would release traffic flows in many a bottleneck.

Competition for a Plan

THE Roads Campaign Council seeks something more fundamental in its latest London traffic competition, "New Ways for London." Prizes are offered of £2,000, £1,000 and £500, with three smaller awards of £250, for an outline plan, to be received by April 30, 1959, of long-term proposals for urban motorways and parking facilities in the County of London, with a report explaining the proposals and the priority advocated. A plan of an area up to 1½ miles square giving the proposed scheme and its features is called for. The assessors (Sir William Holford, Professor of Town Planning, University College, London; Professor W. Fisher Cassie, Professor of Civil Engineering, Kings College, University of Durham; and Mr. Colin D. Buchanan) will then ask six competitors to enter the final stage with more detailed plans and two models by October 30. The results are anticipated early in 1960. Full details of the competition may be obtained from the Roads Campaign Council, 15 Dartmouth Street, S.W.1. The candidates will not be called upon to estimate cost, but the assessors will have regard to the general economic assessment of land, property and historic values made by each competitor. The successful plans should take into account the existing character of London without ignoring the possibility that some buildings are bound to be affected and some people inconvenienced. The capital city must not become a place to live where one cannot move. There is a long trail of paper in the planning of London's highways and we do not dare to believe that any master plan will materialise from this exercise, although admittedly it may help to create a climate in which one can be produced. The difficulty to the competitors of assessing property costs and traffic flows will probably be an insuperable handicap; nevertheless, it may also focus public attention on the vital need for a proper study of traffic engineering in this country.

Forthcoming Events

November 29.—Norbury Tramway and Model Railway Club, 105 Transport Exhibition, At St. Stephen's Church Hall, Winterbourne Road, Thornton Heath.
Stephenson Locomotive Society (Scottish). Paper by Mr. D. Luscombe, "The Irish Scene—Coras Iompair Eireann." At 302 Buchanan Street, Glasgow, 2.30 p.m.
Railway Correspondence and Travel Society (Sussex and Kent). Paper by Mr. R. M. Tomkins, "The Claghtons of the L.N.W.R." At Railway Hotel, Brighton, 7.30 p.m.
December 1.—Royal Society of Arts, Cantor Lecture by Mr. Peter Brooks, "The Development of the Aeroplane." At John Adam Street, W.C.2, 6 p.m.
Institute of Transport (East Anglia). Discussion on the 1958 examination questions. At offices of Eastern Counties Omnibus Co. Limited, Norwich, 6 p.m.
Institute of Transport (Metropolitan). Paper by Mr. G. E. Staves, "Port Charges." At 80 Portland Place, W.1, 6 p.m.
December 2.—Institute of Transport (Gloucester and Cheltenham). Paper by Mr. G. E. Pett, "Air Freight—a Normal Means of Transport." At Midland and Royal Hotel, Gloucester, 7 p.m.
Institute of Transport (Midland). Paper by Sir John Elliot, "London Passenger Transport." At Exchange and Engineering Centre, Birmingham, 6.30 p.m.
Permanent Way Institution (Leeds and Bradford). Paper by Mr. J. Dobson, "This Costs Money." At B.R. Social and Recreation Club, Ellis Court, Leeds City Station, 7 p.m.
December 3.—Institute of Transport (East Midlands). Paper by Mr. J. B. Burnell, "Regularity and Road Control." At City Transport Recreation Club, Leicester, 1 p.m.
Institute of Transport (South Eastern). Paper by Mr. A. C. Thorne, "Transportation in Space." At Coniston Hotel, Sittingbourne, 7.15 p.m.
Institute of Petroleum. Papers by Messrs. J. F. Hutton, "Flow Properties of Distillates at Low Temperatures: a Review," and H. Strawson, "The Pumpability of Aviation Turbine Fuels at Low Temperatures." At 61 New Cavendish Street, W.1, 5.30 p.m.
Royal Society of Arts. Paper by Mr. Julian S. Tritton, "The Consulting Engineer and his Contribution to the National Economy." At John Adam Street, W.C.2, 2.30 p.m.
December 4.—Institute of Transport (Merseyside). Joint meeting with North Western section. Debate, "That transport operation is simple in an inland centre as compared with an estuarial port." At Chamber of Commerce, Liverpool, 6.30 p.m.
Institution of Naval Architects. Paper by Mr. C. H. Latimer-Needham, "The Design of Inflatable Lifeboats." At 10 Upper Belgrave Street, S.W.1, 4.45 p.m.
December 5.—Institute of Transport (South Wales and Monmouthshire). Paper by Mr. J. E. Oxley, "The Severn Waterways." At General Station Restaurant, Newport, 6.30 p.m.
Institute of Transport (South Western). Annual luncheon and visit of president. At Imperial Hotel, Exeter, 12.30 p.m.
Institute of Transport (Western). Paper by Mr. A. G. Taylor, "The Oil Industry and Transport." At Docks Office, Bristol, 1.15 p.m.
Institution of Highway Engineers. Paper by Mr. W. R. Thomson, "Motorway Design and Construction in Worcestershire." At Institution of Structural Engineers, 11 Upper Belgrave Street, S.W.1, 5.30 p.m.
Railway Club. Paper by Mr. R. Burrows, "London to Lisbon by Rail." At 320 High Holborn, W.C.1, 7 p.m.
Railway Correspondence and Travel Society (Scottish). Paper by Mr. O. S. Nock, "The Part to be Played by Signalling in the Modernisation Plan." At 25 Charlotte Square, Edinburgh, 7.30 p.m.

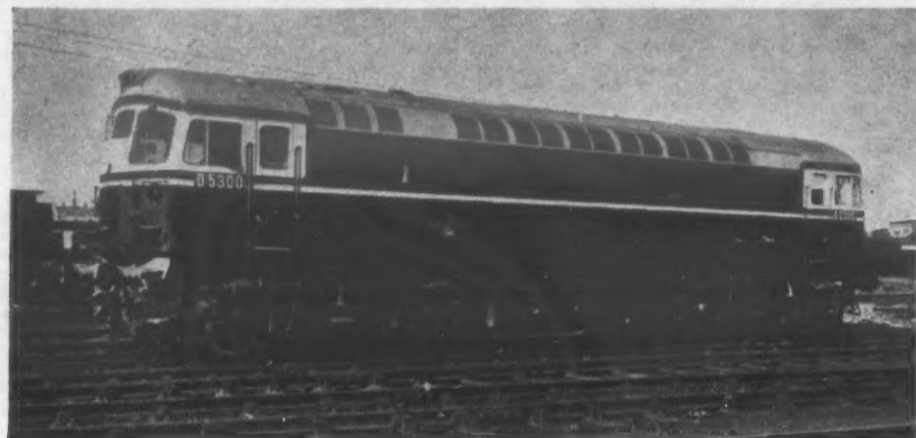
DIESELS FOR SUBURBAN WORK

Type 2 Locomotives on Great Northern Line

REVISED TIMETABLES IN THE SPRING

BRIEF reference was made in MODERN TRANSPORT of September 13 to the appearance of the first of the Type 2 1,160-h.p. diesel-electric locomotives built by the Birmingham Railway Carriage and Wagon Co., Limited for the Eastern Region of British Railways. These engines which are powered by six-cylinder Sulzer units coupled to a Crompton

equipment compartment is made as a completely detachable unit and is, in addition, fitted with several covers to facilitate removal of individual items of equipment. The cab roof consists of a double skin of moulded glass fibre. The cab itself is designed to afford both good visibility and comfort to the crew and the controls are distributed over a flat-top desk and a sloping panel. An interesting refinement is the gold film heating



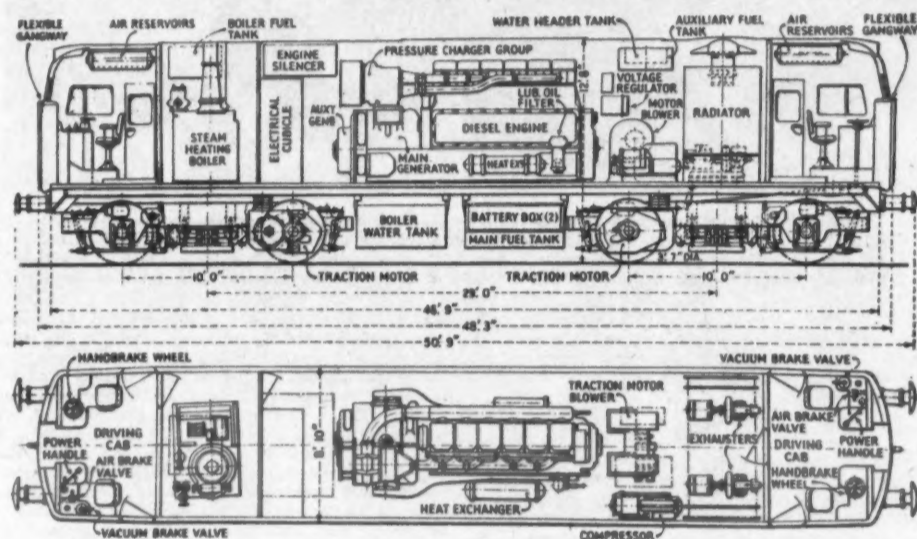
The first of the Type 2 diesel-electric locomotives built by the Birmingham Railway Carriage and Wagon Co., Limited, with Sulzer engines and Crompton Parkinson generators, for the Eastern Region Great Northern Line suburban services

Parkinson generator and equipped with Allen West control gear are now in course of delivery, and by the spring of next year when most, if not all, the 20 needed will have been put to work all suburban services of the Great Northern Line from Kings Cross will be diesel-operated, including an entirely revised service between Kings Cross and Hertford North. The conversion will be achieved partly by locomotive

element incorporated in the safety glass laminations of the windows.

Power Units

In the power compartment a noticeable feature is the width of walkways. This is made possible by the narrow in-line power unit. Power is supplied by a six-cylinder Sulzer diesel engine, type 6LDA28, direct coupled to a Crompton Parkinson generator. The pressure-charged engine, built by



General arrangement of the locomotive

hailed trains and partly by the use of 28 multiple-unit two-car diesel sets. Five locomotives have so far been delivered and on Monday of this week one of them, D5304, was shown off at Kings Cross.

The locomotives which will work both passenger

Vickers-Armstrongs at Barrow-in-Furness, is 280 mm. bore by 360 mm. stroke and is rated at 1,160 b.h.p. at 750 r.p.m. The cooling unit comprises two radiator panels in the bodyside cowed on the inside to form an enclosure with the roof-mounted axial flow fan.

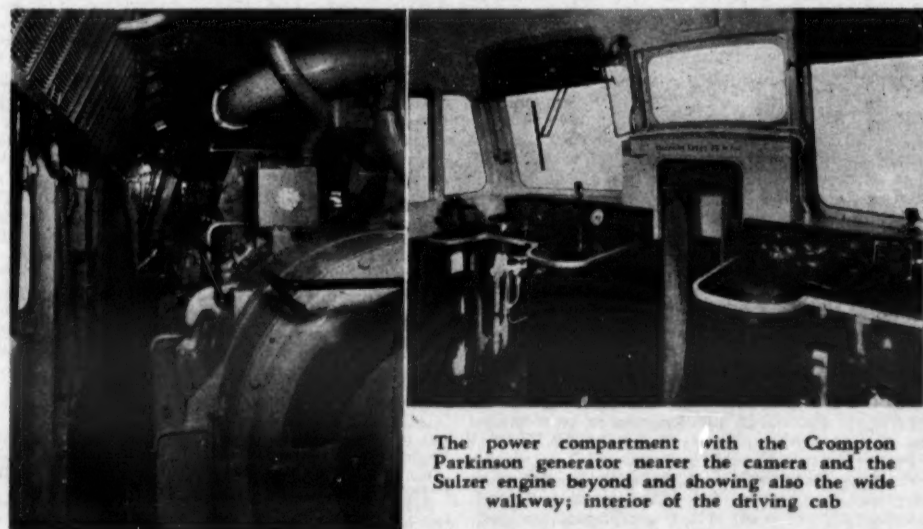
The 10-pole single-bearing Crompton Parkinson

PRINCIPAL DIMENSIONS

Wheel arrangement	Bo-Bo	Diesel engine	Sulzer type 6LDA28
Weight in working order	77 tons	Rating	1,160 h.p. at 750 r.p.m.
Maximum axle load	19½ tons	Maximum tractive effort	42,000 lb.
Length over buffers	50 ft. 9 in.	Continuous tractive effort	30,000 lb. at 11 m.p.h.
Overall width	8 ft. 10 in.	Maximum service speed	75 m.p.h.
Overall height	12 ft. 8 in.	Fuel tank capacity:	
Bogie wheelbase, rigid	10 ft. 9 in.	engine	500 gal.
Wheel diameter	3 ft. 7 in.	train heating boiler	100 gal.
Brakes	Air on locomotive, vacuum for train	Train heating boiler capacity	2,000 lb. per hour
		Water tank capacity	600 gal.

and freight trains have been designed and are being constructed to the general requirements of the British Transport Commission under the overall direction of Mr. R. C. Bond, now technical adviser and formerly chief mechanical engineer,

main generator is rated at 757 kW—1,720 amps. at 750 r.p.m. The Crompton rotating type brush-gear, which permits the brushgear to be turned to the most convenient servicing position, is incorporated and the traction motors are also



The power compartment with the Crompton Parkinson generator nearer the camera and the Sulzer engine beyond and showing also the wide walkway; interior of the driving cab

and Mr. S. B. Warder, chief electrical engineer, British Railways Central Staff. As the Eastern Region is the sponsor region for these locomotives Mr. K. J. Cook, chief mechanical and electrical engineer, Doncaster, E.R., is responsible for collaboration and inspection during the contract. The bodyside framework is a welded assembly of I-section diagonal and vertical members arranged to form a deep girder. The roof of the power

provided by Crompton Parkinson. Control gear is by Allen West.

The bogies are of the equalising beam type with swing bolsters sprung on elliptical springs. Brake equipment is supplied by Davies and Metcalfe and provides air braking on the locomotive and vacuum braking for the train. Fire extinguishing equipment is by Pyrene. A further 18 locomotives

(Continued on page 12)

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A lot of money, yes, but money well spent. This was the amount spent by the Aluminium Limited Group of

Companies during 1957, to make possible more bauxite, more electric power — more aluminium. Between 1951 and 1957 inclusive \$859 million was invested. Such vast investments were possible only because our industry has confidence in its future. To produce aluminium you need dams, hydro-electric generators, huge smelting plants, mining equipment, sea-going vessels to transport the raw materials and ingot.

million



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LORRY—BUS—COACH

London Bus Route Changes

NEARLY 90 London Transport Central area bus routes figure in the very extensive review of schedules which culminated this week (November 26, 29 or 30) in the second stage of the economy service cuts. The first stage was introduced on August 20-24, the third and final stage, for trolleybuses only, is due in January next. The net reduction in mileage on Monday-Friday in the present programme is 3 per cent; on paper it is 6 per cent on scheduled mileage, but about 3 per cent of mileage was not run owing to staff shortage. Overall, i.e. including August, there will have been a 9 per cent reduction on scheduled, again not actual, mileage, and 548 buses out of a fleet of 5,600 will have been delicensed. Since the bus strike 8 per cent fewer passengers have been carried. A principal feature of the changes this week is the heavy withdrawal of Sunday operation. Following is a list of the routes concerned:

Withdrawn or curtailed on Sunday only:
12, 23A, 25A, 34, 39, 39A, 43, 44A, 71, 72, 77B, 79A, 83, 85, 86A, 90, 91, 92, 95, 106, 125, 134, 138, 139A, 143, 163, 168, 175, 182, 189A, 196, 198, 217, 224A, 226, 241, 244, 264.
* Saturday also. † renumbered 189. ‡ extended at one end, curtailed at the other.

Withdrawn or curtailed daily or weekdays only:
8, 18B, 33, 39, 40, 41, 59A, 60, 76, 98A, 120, 123, 151, 161, 176A, 180, 193, 205.

Extended, diverted, or new, Sunday routes:
14, 23B, 39B, 40, 44, 49, 62A, 90C, 92B, 95A, 106A, 109, 129, 133, 134A, 133, 174, 242A.
‡ new route. * new daily route.

Extended or diverted daily or weekdays only:
1, 23, 30, 51, 51A, 51B, 51C, 59A, 66A, 73, 73A, 74A, 85, 105, 175, 250, 252.
* new route.

(The alterations to the 51 group and 241 follow the lowering of the road under Sidcup Station bridge; 228 and 241 are now worked with double-deck buses.) Clapham, Old Kent Road and Putney Bridge garages ceased operation from November 26.

This year London Transport expects a shortfall in its proper contribution (£6 million) to B.T.C. central charges of £4½ million, the £2 million net lost by the bus strike being a major contributing

factor. The three-stage service economy programme referred to above and other economies should yield savings of £3 million in 1959 and on present indications the deficit next year should be reduced.

Coal Delivery in Paper Sacks

HOUSE coal delivered in paper sacks is regarded with favour by Manchester Corporation and to regularise the position the city fire laws are to be amended. These non-returnable paper sacks enable the housewife to store coal, without causing dust, until it is required.

Overtime for Union Men Only

AT the request of the trade union, Birmingham Corporation Transport Committee has agreed that overtime should be restricted to trade union members among bus crews. Non-unionists will be allowed to work overtime only if no union members are available; 98 per cent of the 5,000 drivers and conductors are trade unionists. Some time ago the city council decided against permitting a closed shop for transport staff.

Co-operative Societies to Amalgamate?

VOLUNTARY amalgamation of some 950 retail co-operative societies into 200 to 300 in order to compete more effectively with multiple stores and self-service establishments was supported at the Co-operative Congress in Blackpool this week. This was on a central executive proposal that delegates



This A.E.C. Mercury, one of a fleet operated by A. D. Forsey (Transport), Limited, Weston-super-Mare, carries a 20-ft. Lithex Mark III container by Walkers and County Cars, Limited, for haulage of meat, etc., to London. It is fully insulated with glass fibre and lined with plastics sheet. On the right is a Guy Invincible seen loading chicken feed on Merseyside



should endorse the basic principles for amalgamation recommended by an independent commission, whose report was the subject of the congress, and that they should conduct a detailed national survey of the whole matter. The commission suggested that the aim behind amalgamation should be the formation of societies of a size sufficient to operate a chain of at least 15 grocery shops, that there should be one society in each main shopping centre and catchment area, and that societies should amalgamate wherever duplication of resources was creating manifest waste and inefficiency.

Back to Integration

RENATIONALISATION of road haulage is necessary to enable the British Transport Commission to establish a fully integrated road-rail transport service. This is the theme of the transport reference in the latest Socialist manifesto *The Future Labour Offers You*, published this week.

Coaches Down a Tunnel

AN unusual feat by Highland Omnibuses vehicles during the course of a private party trip has just come to light. After the formal opening of the £12 million Moriston hydro-electric scheme, Highland coaches took visitors a mile along the tunnel linking the surface with the underground power station, down a gradient of 1 in 10—and later reversed the entire distance, despite limited clearance all the way.

Bus Season Ticket Application

INCLUDED in a fares application by the Lincolnshire Road Car Co., Limited, lodged with the East Midlands area Traffic Commissioners is a proposal for no further renewal of season tickets. Some time ago the company ceased issuing season tickets to newcomers and only renewed those already held. It is also proposed to cease issue of daily return tickets for workers and to issue instead weekly return tickets, available only where the single fare is one shilling or more. These tickets will be usable over five, six or seven days.

Trailer Interchange in U.S.A.

LEGAL objection, in the shape of the anti-trust laws, to the interchange of semi-trailers between U.S. trucking companies on through routes, has been removed by a decision of the Interstate Commerce Commission. It is estimated that at the present time some 335 motor carriers who are parties to a national agreement interchange about 58,000 semi-trailers a month on through routes, thereby saving transshipment of loads. Now they will be immune from charges of contravening anti-trust legislation although subscribing to a collective agreement.

Unloading Issue at Smithfield Market

BOTH the Smithfield Market Tenants Association and the Wholesale Meat and Provisions Transport Association reported that unrest at Smithfield Market in London was in part caused by the insistence of the T. and G.W.U. that "pullers back" should be used on all vehicles delivering meat to the market, with the exception of those operated by the railways, to pull loads back to the pitchers. These complaints are dealt with in the report of the committee of inquiry, now published, on causes of industrial unrest in the market (the broad issues are discussed on page 1). In all other meat markets, it was stated, drivers pulled back their own loads as they did when available at Smithfield before the war. It was considered that the compulsory use of pullers back was imposing an unnecessary charge upon the price of meat. The union justified the continued use of pullers back mainly on the grounds that drivers were weekly paid while pitchers were piece workers

and it was uncommon in industry for piece workers to be serviced by weekly paid workers. Drivers refused to pull back their own loads after agreement had been reached with the union in 1955 to limit the use of pullers back. The report says that there is no doubt that the question of pullers back is causing a great deal of discontent to both the market tenants and the carriers' association, but the members of the committee feel that they have not the evidence or experience to undertake a detailed investigation of this question. Most pullers back are employees of meat carriers.

Area Bus Wage Conferences

FOLLOWING the national conference convened in London by the T. and G.W.U. on November 18 there is to be a series of seven delegate conferences within the next few weeks throughout the country, further to consider the question of formulating a co-ordinated national policy on busmen's wages. Another national conference is then planned to take place in London early in the New Year. London busmen's representatives are to meet representatives of London Transport next Monday to pursue their demand for revision of the agreement under which standing passengers are now conditionally carried during the peak hours. This issue is in theory distinct from that of the reductions in services and the "work-to-agreement" campaign which the bus crews threatened to apply following the service economies introduced this week.

Motorway Driving Code

FREE distribution to drivers and road transport organisations in the north-west is being made of the code of conduct for drivers on motorways, published this week in readiness for the opening by the Prime Minister of the Preston by-pass motorway on Friday next week. The code provides rules for joining or leaving a motorway and gives advice on such matters as overtaking, parking, stopping, night driving and keeping a safe distance from the vehicle in front. Above all, it stresses the importance of lane discipline. In the north-west it is being sent out by the Lancashire County Council and the County Police; a further 250,000 copies will be sent to members by the Automobile Association and the Royal Automobile Club. The code will not be placed on sale as a separate document, but will be incorporated later in the Highway Code. The advice which it contains will be reviewed by the Committee on Road Safety in the light of experience and the final text will be included in a revised edition of the Highway Code for approval by Parliament.

Bus and Coach Developments

D. F. Stanfield, Figheldean seeks the licences of Avon Coaches, Limited, Netheravon.

W. L. Silcox and Son, Pembroke Dock, applies for the licences held by D. J. Morison, Limited, Tenby.

Pleasureways (1955), Limited, Oldham, seeks the excursions and tours from Uppermill of Central Garage (Saddleworth), Limited.

Birmingham and Midland Motor Omnibus Co., Limited, applies for a new service between Stourbridge Town Station, Wollaston Junction, and Wollaston Farm Estate.

Walsall Corporation and the Birmingham and Midland Motor Omnibus Co., Limited, propose joint services between Walsall and Sutton Coldfield via Longwood Lane, Barr Beacon, Manor Road and Streety Station or New Oscott.

David MacBrayne, Limited, has applied for the licences of the Skye Transport Co., Limited. This company has been controlled by the Scottish Co-operative Wholesale Society which took over the business from Mr. Nicholson, who had, in turn, taken over the Skye branch of the Highland Transport Co., Limited.

A BEDFORD IN EUROPE

Doughty Performance of Kenex 12-Seater

FAST motoring with commercial vehicles, even of the lighter type based on private car components, is not to be lightly indulged in at home, where their legal speed is limited to 30 m.p.h., but many such vehicles are capable of much higher speeds with safety comparable to that of most cars and are certainly driven at high speeds over long distances by Continental and other overseas owners. The A-type Bedford van for 10-12 and 15-cwt. loads is sold in substantial numbers abroad and is also the most widely used vehicle of its type as the basis of ambulance, 12-seat utility

at the rear, line on the body floor and a full interior lining. The seats are arranged in two rows of three facing forward, each of which has a removable centre section to facilitate loading, and a bench seat for three passengers over each rear wheel arch facing inwards. The seats are manufactured completely by Kenex, Limited, including the frames; they are upholstered in brightly coloured plastics cloth, with foam cushions and rubberised-hair squabs and though small are extremely comfortable.

The step in the van floor determines the position of the front seats, which is well forward so that footroom for the two passengers there is obstructed by the engine cowl and nearside wheel arch; otherwise there is enough though not excessive room for 12 adults. Certainly there were no complaints from the various passengers we carried for parts of our 1,300-mile journey, even on the front seats, all of whom praised the comfortable seats and the general brightness of the interior afforded by the trim and the additional roof lights. The Kenex conversion is based on the 15-cwt. van which has heavy-duty rear springs and 6.40-15 six-ply tubeless tyres, and has an unladen weight in licensing condition of 1 ton 2 cwt. The basic van in primer costs £442 1s. and as there is no purchase tax on passenger vehicles with 12 or more seats, the total price of the complete conversion finish-painted in one colour (two-colour painting is offered at extra cost) is only £571 1s., representing outstanding value.

Varying Load

Apart from a GB plate and Continental headlamp bulbs, the vehicle used for our trip was in completely standard condition and was fitted with the high-compression engine. It had already covered some 3,200 miles when we started and was thus well clear of the period when full use of the vehicle's performance might have been inhibited by running-in considerations. Load varied widely throughout the journey and was sometimes as low as two passengers only and sometimes near the maximum recommended gross weight of 1 ton 16½ cwt. Over the greater part of the mileage covered the load comprised 3 cwt. of ballast, about 2 cwt. of luggage and two passengers and this was the weight at which the first part of the journey from London to Paris was made. A passage on



Silver City's Bristol Superfreighters can carry three vehicles of this size and the cost to cross from Ferryfield to Le Touquet or Calais on October 1 was only £6 for the Bedford

and small-bus conversions. The coincidence of the availability for testing of one of the latest Kenex 12-seat applications of this popular van and our recent visit to the Paris Motor Show and the Brussels Exhibition provided an excellent opportunity of trying out the vehicle under the more open and higher-speed conditions obtaining on the Continent.

Best Seller

The ubiquitous Bedford A-type van needs no introduction since more than 110,000 of the present series have been produced and delivered. But the current version, designated CAZ4, is a vastly different product from the original in everything



Three shots showing different aspects of the interior of the Kenex 12-seat conversion of the Bedford CAZ4 van

but shape, having followed the successive improvements in efficiency and economy of the Vauxhall Wyvern and, more recently, the Victor cars, on the running units of which the van is based.

The power unit is the Vauxhall four-cylinder overhead-valve petrol engine with a capacity of 92 cu. in. (1.507 litres), which is available with either 6.8 to 1 compression ratio for standard-grade petrol or 7.8 to 1 for premium-grade petrol. Gross output of the lower-compression unit is 52 b.h.p. at 4,000 r.p.m. and 82 lb./ft. torque at 2,400 r.p.m.

the Silver City 9.30 a.m. Bristol Superfreighter cost £6 for the Bedford and £3 each for the passengers (off-peak fares from October 1) and took 20 min. flying time, French Customs was cleared by 10.15 and a fairly leisurely 150-mile run from Le Touquet brought us to the Grand Palais, on the Champs-Élysées, just before 3 p.m. Petrol consumption to this point had been just short of 32 m.p.g.

For the next three days the Bedford had to work much harder carrying us in the Paris traffic between the two parts of the Motor Show at the



Narrow and steeply cambered N188 approaching Paris is typical of many French roads; the pavé in the picture on the right, where the Bedford is contrasted with a Citroën van of approximately similar capacity, is also typical

The high-compression engine develops 55 b.h.p. at 4,200 r.p.m. and 85 lb./ft. torque at 2,400 r.p.m. Transmission is through a 7½-in. dia. single-dryplate clutch, three-speed all-synchromesh gearbox and semi-floating hypoid rear axle; hydraulic brakes on four wheels provide a total lining area of 109.8 sq. in. The chassis frame is of rigid cruciform construction with four crossmembers, the front one of which serves as a carrier for the independent coil-spring front suspension, which is fitted with a transverse stabiliser bar. Rear suspension is by underslung semi-elliptic springs, of seven leaves in the 10-12 cwt. and eight leaves in the 15-cwt. capacity vehicles. Taxation weight of the smaller-capacity van is 19 cwt. and of the larger 19½ cwt., while the maximum permissible gross weights are 3,700 and 4,100 lb. respectively.

Kenex Coachwork

The Kenex trim for the vehicle comprises the fitting of full-length side windows with opening sections on each side at the rear, tinted glasses in the sides of the roof, fully upholstered seats for 12 including the driver, a full-width fixed step

Grand Palais and Parc du Porte de Versailles and also, night and morning, the 55 miles between Paris and Chartres, where we had elected to stay. The road is good, partly on the Autoroute de l'Ouest avoiding Versailles, and was covered mostly running easily with the speedometer well past its maximum reading of 60 m.p.h. The 350 miles or so involved in this stage was a good deal more costly in fuel and consumption was only slightly better than 24 m.p.g. An indication of what the maximum speed of the vehicle actually is was given later when the 72 miles of motorway from the outskirts of Brussels to Ostend was covered in exactly one hour, without any sign of oversteering and for much of the distance with the throttle slacked well back from the floorboards. In performance the Bedford appeared insensitive to varying load, though it had an obvious effect on fuel consumption, and the only period during which we were reduced from DS19 to 2CV standards was after the tank had been inadvertently filled with French standard-grade petrol. Then the throttle had to be used very gently and much more

(Continued on page 16)



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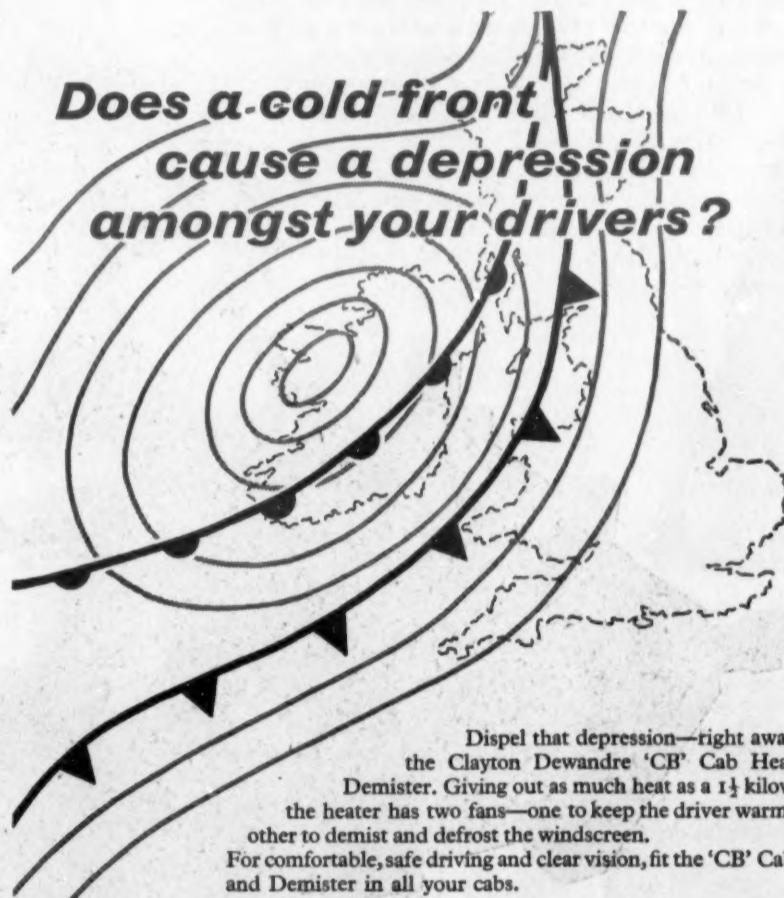
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CHANNEL TUNNEL

Work of Study Group

As already indicated in our columns, an interim report on the first-year activities of the Channel Tunnel Study Group has just been published; it describes a number of activities carried out on behalf of the Group and the progress made. The Group was constituted at the end of 1957 and is composed of members from the English Channel Tunnel Company, the French Channel Tunnel Company and the International Road Federation (Paris office), the Suez Company and an American company, Technical Studies, Inc.

Investigation of Strata

The Group decided at the beginning of the year to allot £200,000 for the execution of a two-year programme. The first and most important point to be investigated is the nature of the ground to be tunnelled through. Upon this depends the feasibility of the project, as the British consulting engineers emphasised in their reports of 1929 and 1947. A considerable amount of work was done up till 1880, when the project was very much alive; and a report exists of an extensive survey made from the French side where samples were taken from the sea-bed and their positions plotted by sextant observations. From these a map was drawn showing the outcrops of the various beds. At about the same time a shaft and pilot tunnel was driven for a short distance under the sea at Sangatte on the French coast and also on the British side from the Folkestone Warren—Shakespeare Cliff area.

The information gathered by these means is available and is of considerable use. But recent scientific developments have provided additional means of exploration. Amongst them are two methods particularly appropriate to this problem, the seismic and the sonar. Both are based upon variations in the velocity of sound travelling through different rocks and soils. The seismic method is to record the time taken for the vibrations of a series of explosive charges to reach a number of sensitive geophones and so obtain readings for interpretation by geophysicists. The

sonar method is to traverse the sea with a transducer, somewhat on the principle of an echosounder, which sends out vibrations and recaptures their reflections, recording these on continuous rolls of sensitive paper.

Seismic Survey

Since seismic work, which is suited particularly to the deep penetrations required in oil-well drilling, was thought likely to prove less effective in the shallow Channel bed only an experimental seismic survey has been carried out on each side of the coast. Diamond drilling up to 600 ft. deep has been carried out on both sides producing continuous cores of about 4½ in. diameter all the way through the middle and lower chalk, gault and greensand formations. This work was executed by the British and French branches of the Craellius Company. In addition geophysical investigations were made along the surface adjacent to these borings, so that the instrumental records could be checked for accuracy with the borehole. The results of this seismic work are now being interpreted so as to ascertain whether the contrasts in the various strata are clear enough to make it worthwhile carrying out such work in the Channel itself.

The velocities measured are of importance in the second exploration which has also been carried out. This is the sonar survey entrusted to the Telephonics Corporation of Long Island, New York. Representatives of that company were fortunate in obtaining the services of Coxswain Walker of the Dover lifeboat, who chartered to them his craft *King John II*, a former motor lifeboat, and he himself navigated the craft. His knowledge of the Channel waters proved invaluable. The first stage consisted of fixing the transducer 8 ft. below the bottom of the boat and cruising to and fro on selected courses while the pulsations were automatically recorded on rolls of paper.

Use of Decca

The boat was equipped with the Decca navigation system by which the position of the boat can be continuously plotted. In spite of the worst summer weather for many years, they were able to work for 28 days and only lost eight days through bad weather, covering about 600 miles in traversing the area. For the last part of the survey the transducer was rewired and dropped to the sea bed in various positions. It was found that when travelling with the transducer close to the surface, penetrations of 100 ft. below the sea bed were recorded, showing the changes in strata, while when the transducer was dropped to the bottom the penetration was over 500 ft. in the chalk and about 1,000 ft. in the rocks below the chalk.

The next stage in the sonar survey is the interpretation of the records, which will take some little time. When it is realised that the 100 rolls of paper containing the continuous record are over 4,000 ft. long, with Decca readings every three minutes, and that the records must not only be interpreted but corrected for rise and fall of the 20-ft. height of tide, it is apparent that the plotting of such a survey takes longer than the survey itself. It has been interesting to find that preliminary interpretations have shown a remarkable agreement with the 1875 map. Whilst it is too early to draw any categorical conclusion, it can be said that this preliminary sonar survey does not seem to have disclosed any faults in structure which would constitute an insuperable obstacle to the construction of a tunnel.

Samples

In addition to these two surveys experimental work in obtaining samples from the sea bed by divers was carried out by the French firm Sogetram on the French side, and by Universal Divers, Limited, on the British side. These have shown that such methods can be used to assist in identifying the nature of the bed in selected places, which simplifies the interpretation of the sonar records. The bed of the Channel is remarkably free from deposits of sand and shingle of any depth, due to the strength of the currents. As well as these investigations, the French firm Fougerolle was given the work of pumping out and examining the shaft and pilot tunnel at Sangatte, which had been submerged since 1883, and these workings were examined by a number of experts and tests made on the stresses in the ground. The old pilot tunnel, which had been bored by an early form of boring machine and was 7 ft. in diameter, was found to be in remarkably good condition, and the amount of water entering was significantly small.

The next steps to be undertaken are to complete the interpretation of this year's survey and to prepare for the next season's work, when it is hoped to complete the Study Group's programme by carrying out some borings through the Channel bed. This will enable the results of geophysical exploration to be checked. It may also be necessary to do some additional geophysical work to fill any gaps in knowledge acquired by this year's work. All this geophysical investigation is required primarily to establish the best route, but it will also provide information about the geophysical conditions required for the next stage of the work—namely engineering studies to determine the best methods of construction and the approximate cost of a rail or road tunnel or both.

Economics

It is of course not sufficient to be assured that the construction of a tunnel is technically possible. It is also necessary to be satisfied that it is a sound economic proposition. For this purpose the Economist Intelligence Unit of London, a French company S.E.T.E.C., and De Leuw Cathers Company of Chicago, have been entrusted with the task of investigating the pattern of trade with the Continent, the existing transport costs, the pattern of passenger and motor car traffic, the incidence of customs and immigration delays, tolls and other relevant factors. They are also to make forecasts, based on available statistics, of future trends in these fields, including the increase of traffic which the provision of the facility in several alternative forms is likely to stimulate.

This work was begun during the summer. The Economist Intelligence Unit has completed an analysis of the existing pattern of Continental trade by routes and main regions for some half a dozen categories of goods, with another half a dozen approaching completion. Altogether there are about 35 categories of goods to be analysed. Progress has also been made in calculating transport costs, including average handling charges, as well

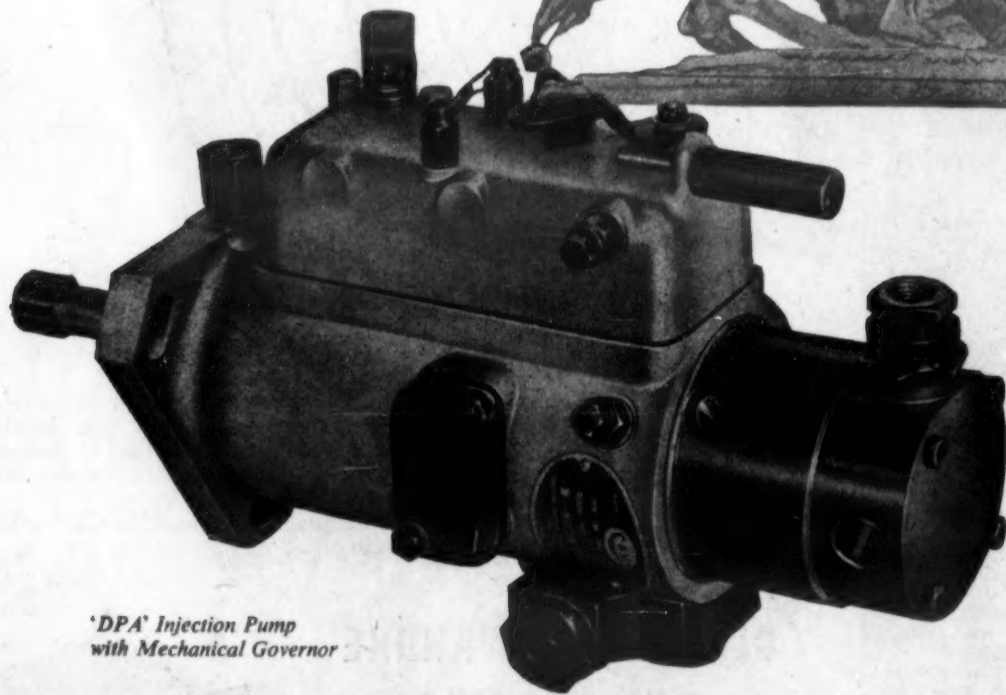
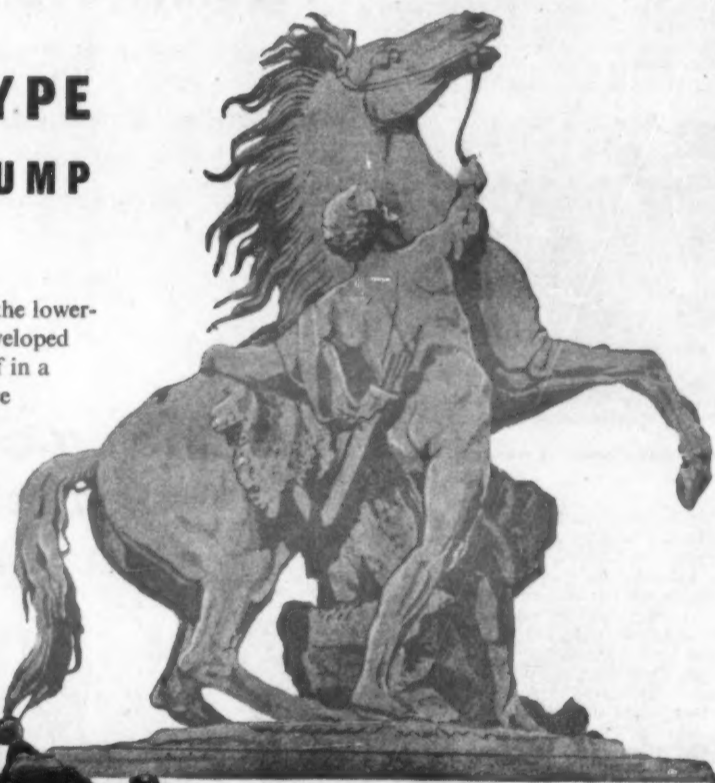
(Continued on page 7)

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L.T.S. ELECTRIFICATION

Wiring Erection Begins

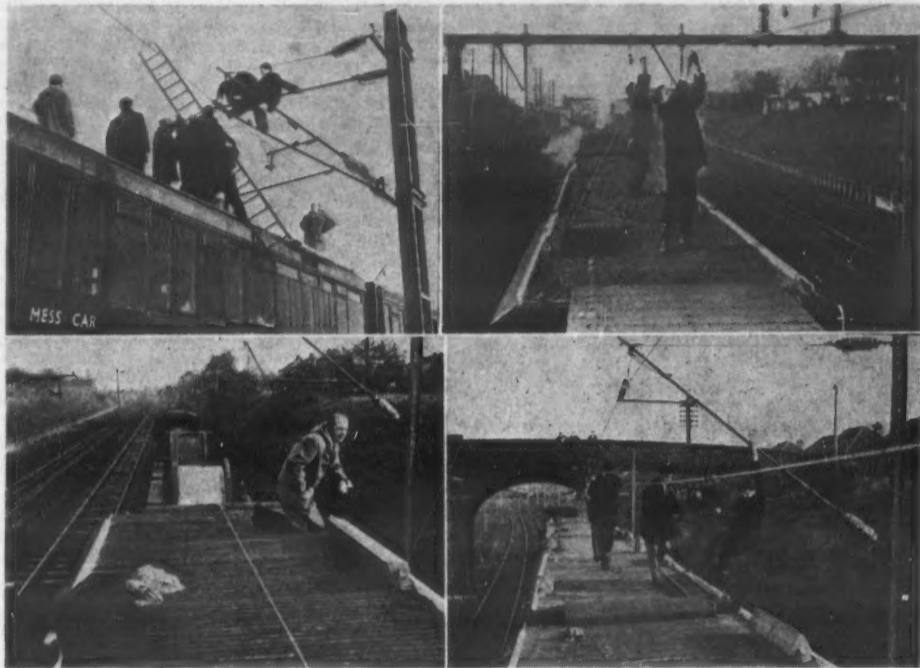
ERECTION of overhead wire has begun between Hornchurch and Upminster on the London, Tilbury and Southend Line of the Eastern Region in readiness for electric traction on the B.R. standard 25,000-volt 50-cycle system in 1961. The scheme extends over nearly 80 route-miles from Fenchurch Street to Barking and thence to Shoeburyness via Upminster, Pitsea and Southend and via Tilbury and Pitsea. The Upminster-Ockendon-Grays single-track connection will also be electrified to provide an alternative route. From Fenchurch Street through Stepney to Gas Factory Junction has already been electrified at 1,500 volts d.c. as part of the Liverpool Street-Shenfield scheme and this section and thence to a point near Barking will in practice be energised with 50-cycle current at 6,250 volts. Some 350 miles of catenary and contact wire will be erected.

Civil engineering work in preparation for electric traction includes rebalancing, lifting or rebuilding bridges and other structures to secure clearance

mess car and office. Fluorescent lighting is available on the roofs for night work and the necessary generator set for the current is on board. The wiring has to be carried out in quiet periods when possession can be obtained of one road for several hours and single-line working with a pilotman introduced on the other. The illustrations graphically show the process of putting up contact wire after the catenary is in position.

The catenary wire is 19/0.083-in. cadmium copper wire. Tension is kept constant by weights at 1,838 lb. between 35 deg. F. and 122 deg. F. The weight per foot run is 0.405 lb. The contact wire is 0.166 sq. in. solid grooved cadmium copper contact wire. Tension is kept constant by weights at 2,000 lb. between the same temperatures. The weight per foot run is 1.163 lb. The equivalent copper area of both wires is 0.22 sq. in.

The structures supporting the overhead line equipment are mainly of four types: B.F.B. (broad flange beam) section, tubular, fabricated welded



Wiring the L.T.S. Line between Hornchurch and Upminster: Adjustment of the catenary; temporary droppers hung on the catenary to support the contact wire; below, rolling the contact wire off the drum; and, right, attaching contact wire to the droppers

for the high-tension wires; reconstruction of a number of stations to suit modern requirements; provision of a new hump marshalling yard with primary and secondary retarders at Ripple Lane (near Barking on the Tilbury Line); concentration of sundries traffic on two centres, at Barking and Southend; separation of the tracks used by District Line trains of London Transport to reduce time-wasting conflicting movements and provision of a comprehensive series of flying junctions at Barking for a similar purpose, as already described in our columns. Removal of the L.T.E. District Line car shed from the Little Ilford triangle, between East Ham and Barking, to Upminster, will enable the construction of a new carriage depot and berthing sidings for the L.T.S. line. The suppression of the Woodgrange Park-East Ham spur and the realignment of the District tracks and the eastbound L.T.S. line will enable this depot to feed trains to either the up or down roads without conflicting movements. The railway will be resignalled with fewer boxes. In a word, by 1961 it will be a new railway, for both freight and passenger traffic.

Wiring Train

The wiring train for British Insulated Callenders Cables men's use comprises cable drum wagons at each end of six coaches on which flat roofs have been fitted. These comprise a pair of stores cars, workshops, car for lifting tackle and pulley blocks,

rod, and double channel. On the open route sections of the double-line track the great majority of the structures consist of either separate B.F.B. or tubular masts acting as single-track cantilevers for each track. All overhead line structures are galvanised. Overlap spans and neutral sections are provided at convenient points along the line, which is thus sectioned electrically, not only at the feeder stations and track sectioning cabins, but also by switches at strategically placed overlap spans.

Simple Construction

The overhead line equipment itself is of simple construction and consists essentially of a copper catenary which supports by cadmium copper droppers a copper contact wire. The wires zig-zag from the centre line to a maximum of 15 in. so as to give even wear on the contact strips of the pantographs. About one mile of track can be wired in a 5-hr. possession. Once the wires have been put into position they have to be very closely adjusted and checked by dynamometer; when this has been done the position of the wires is proved by passing a train fitted with a dummy pantograph beneath them which acts as a gauge. The contact wire is greased to keep it serviceable until regular running of trains commences and a further precaution is that the insulators are protected in polythene bags from corrosion by steam train exhausts until electric service begins.

Channel Tunnel Study

(Continued from page 6)

as packaging and insurance costs so as to determine how far these latter two cost factors are likely to influence the shipper's decision whether or not to send his goods through a tunnel.

The French company, S.E.T.E.C., during a week's special survey, has been able to form a picture of the pattern of passenger and motor car traffic during that week. In addition from July 21 to August 10, 1958, a force of some 30 interviewers has interviewed 56,044 passengers. A similar off-season survey was made between October 13 and 26. The information thus obtained has been supplemented by questionnaires distributed to passengers travelling to and from the Continent. The company is also assembling data on running times in England and the Continent, crossing times by sea and air and Customs and immigration delays.

Trends

As regards future trends, the Economist Intelligence Unit has assembled data regarding detailed forecasts of the gross national products of Great Britain, France and Germany, the chief countries to participate in trade through a tunnel; and progress has been made in the same study regarding the gross national product of the other countries likely to be concerned. Detailed forecasts of future exports and imports are to be prepared; and the Unit is studying the implications of any closer economic integration in Europe with a view to gauging the volume of goods a tunnel would be required to carry. The French company is assembling with the aid of O.E.E.C. statistical data as well as of various Ministries of Transport and Council of European Ministers of Transport information bearing on the probable traffic growth.

The Economist Intelligence Unit and S.E.T.E.C. have not yet brought their investigations to any conclusive point. But it is hoped that they will have completed their work and be in a position to report to the Study Group in about six months' time. The Study Group will then have to relate

the forecasts of traffic and of revenue to the estimated costs of alternative types of tunnel before final conclusions on the whole project can be reached. The Study Group hopes to make its final report by the end of 1959.

FORTH ROAD BRIDGE

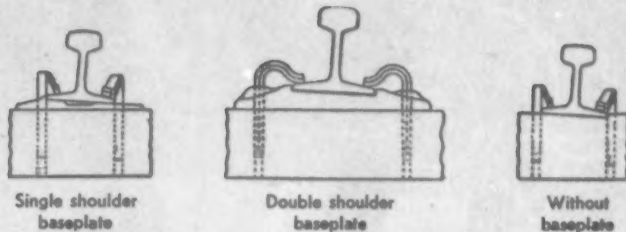
Colour Film to be Made

TO be made jointly by the Films of Scotland Committee and Scottish Oils and Shell-Mex, Limited, a 30-min. colour film of the building of the Forth Road Bridge will be a complete record of the enterprise, from start to finish. Preliminary work at the site has already been covered and an aerial record made of the area. The opportunity will be taken in the film to show the many social and economic advantages Scotland will derive from the project. The bridge will be the longest suspension bridge in the Commonwealth and Europe and the fourth longest in the world.

Full co-operation in the production of the film has been offered by the Forth Road Bridge Joint Board and all concerned with the bridge. The consulting engineers are Messrs. Mott, Hay and Anderson, with whom are associated Messrs. Freeman, Fox and Partners. The contractors concerned are John Howard and Company, for the piers and anchorages and the A.C.D. Bridge Company, a partnership formed by Sir William Arrol and Co., Limited, the Cleveland Bridge and Engineering Co., Limited, and Dorman Long (Bridge and Engineering), Limited, for the superstructure.

The Films of Scotland Committee, under the chairmanship of Sir Alexander B. King, was set up by the Secretary of State for Scotland, acting through the Scottish Council (Development and Industry), to project Scotland on the screen.

ELASTIC RAIL SPIKES



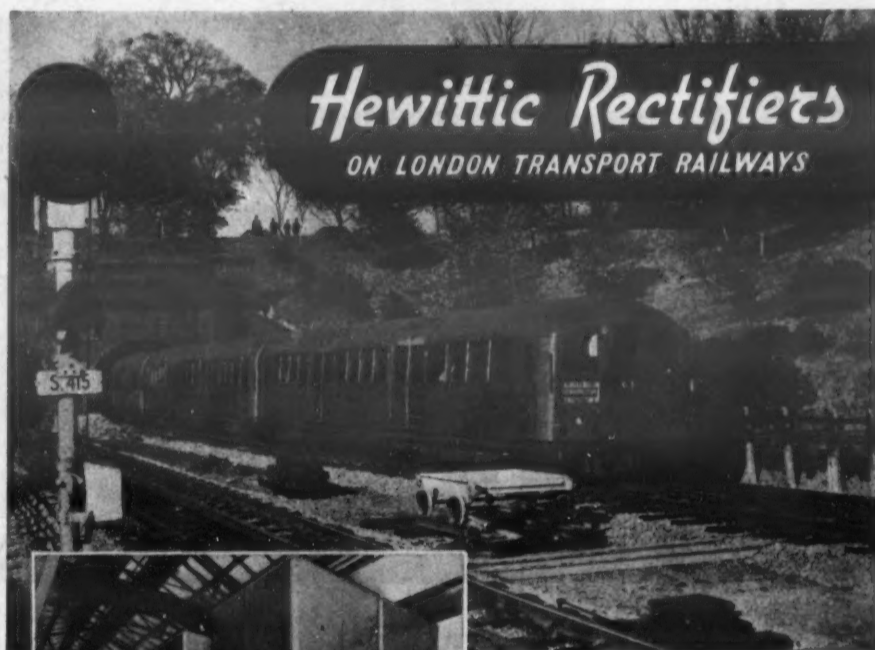
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The illustrations show a train on the Northern Line at Hendon and the 4,000 kW substation at Bond Street (Central Line) equipped exclusively with Hewittic Rectifiers. The plant comprises four 1,000 kW combined rectifier and transformer units, the transformers being totally enclosed air-cooled.

This Company is also responsible for the supply and installation of all A.C. and D.C. control gear at this substation.

Some 90,000 kW of Hewittic Rectifiers have been supplied to the London Transport Executive.

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NEWS FROM ALL QUARTERS

Sleeper Service to Milford Haven

Sleeping-car services between Paddington and Milford Haven are to be introduced on December 1 by the Western Region. The sleeping-car train will leave Paddington at 12.45 a.m. on Monday to Saturday mornings and return from Milford Haven at 10 p.m. on Monday to Saturday nights. This new train will make intermediate stops from Swansea onwards.

Fort William—Mallaig Road

Work has been started by the Inverness-shire County Council on reconstruction of the Fort William—Mallaig trunk road, all of which is to be rebuilt to provide ultimately a two-lane carriageway 18 ft. wide in place of the existing single-lane carriageway with passing places. The first section to be dealt with extends for 11 miles between Glenfinnan and Lochailort. The whole scheme is estimated to cost £420,000.

Roundabouts Now Démodé

Roundabouts were on the way out in the new road programme, said the Minister of Transport in London last week. "We shall build flyovers and flyunders and all the rest of the complicated geometry of modern roads," he said. The new by-pass motorway at Preston, to be opened by the Prime Minister next week, would be "a sign of big things to come." "I do not propose a speed limit on it but I may be forced to if we have bad accidents," said Mr. Watkinson.

Aluminium Refrigerator Cars

Five prototype refrigerator cars, built almost entirely of aluminium, are being extensively tested by Canadian National Railways. They are designed to eliminate the expensive wear and tear and repainting resulting from the corrosion-causing brine solution used in the refrigerator systems of existing cars. The roof, side sheets and ends of the five cars have been left unpainted. One is equipped with strain gauges.

Autostrada del Sole in Italy

Three sectors of the Autostrada del Sole, the Milan—Naples highway, are due to be opened in 1958—all well ahead of schedule. These are the 40-mile Milan—Piacenza North sector (six months ahead of schedule), the 35-mile Piacenza—Parma stretch (eighteen months ahead of schedule) and the 25-mile section between Capua and Naples. The 55-mile sector between Parma and Bologna is to be ready by June, 1959, one year ahead of schedule.

Birmingham Engineering Centre

In future the Birmingham Exchange and Engineering Centre will be known simply as the Engineering Centre. Activities remain unchanged. The Birmingham Exchange was founded in 1861 to enable business people to meet each other "at a particular time on each day with far less waste of time than going to each other's offices." After the war the extensive but virtually redundant premises in the city centre were transformed into a modern exhibition hall.

Reserved Seats in German Trains

New regulations for the occupation of reserved seats and compartments in express trains of the German Federal Railway have been issued. Seats as well as compartments for which advance reservation has been made, are designated accordingly. Both must now be occupied not later than 15 min. after the train has departed from the station from which the reservation applies, otherwise the right to occupy them lapses.

Swiss Transport Institute

The Swiss Transport and Communications Exhibition in the Swiss Transport Institute, scheduled to open at the end of June, 1959, will have halls for each transport sector—the Swiss Federal and private railways, communication systems, transport by road, water and air, and tourist traffic. Industry and trade will be given facilities for demonstrating products used in the service of transport, and these will subsequently be coordinated into mobile exhibitions.

More Diesels in County Durham Area

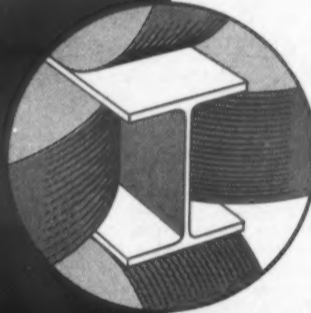
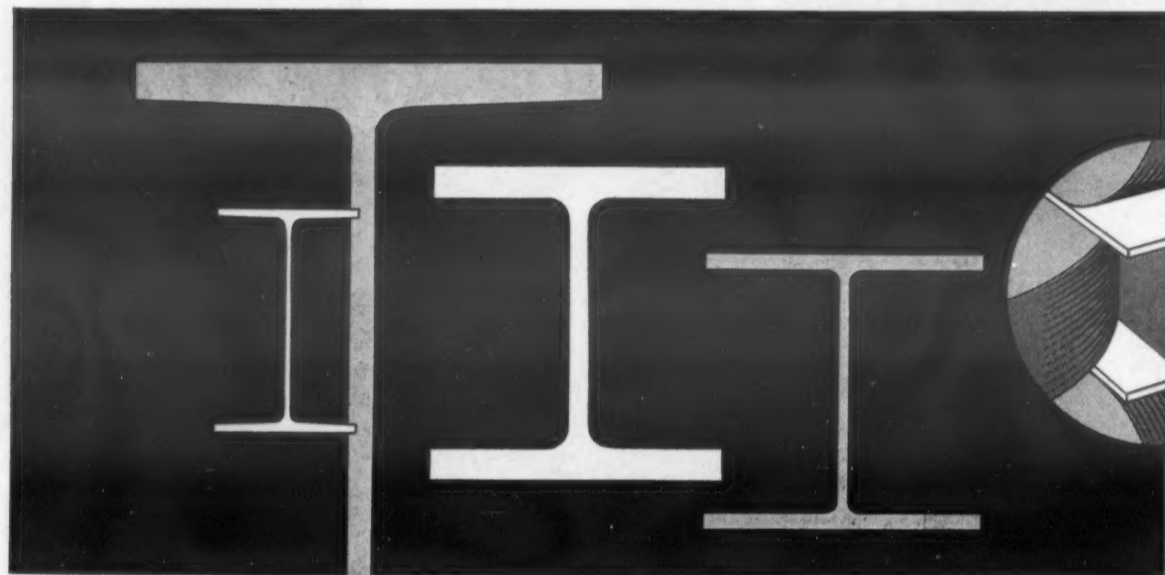
From December 1 more diesel trains will be running in the County Durham area. Sixty-four of the existing weekday steam trains are to be replaced by diesel train sets and there will be some additional services. For the time being, the diesel trains will run in steam train timings, but accelerations will be introduced later. The passenger train services between Sunderland and Newcastle, South Shields, Durham and West Hartlepool will be almost completely provided by diesel trains.

Automatic Signalling on Northern Line

The third and final stage in the conversion to completely automatic signalling of junctions on the in-town sections of the London Transport Northern Line was brought into use at Euston on November 16. The signalling of trains at Euston is now carried out by programme machines similar to those brought into use at Kennington in January and at Camden Town in June of this year. Between them, the programme machines at the three stations handle automatically 1,200 trains a day on the central section of the Northern Line over their various routes and to their different destinations.

Oxford Western By-Pass

Work is expected to start shortly on the building of the Oxford western by-pass, which will cost more than £1½ million. It is hoped to complete the scheme by March, 1961, and there will then be an almost complete ring of by-passes round Oxford, including the northern and southern by-pass, finished before the war, and the eastern by-pass now nearing completion. It is hoped eventually to close the ring by building an extension to the southern by-pass to form a link between this road and the eastern by-pass and also between the Abingdon road, and the Henley road. The western by-pass will be 3½ miles long and will run largely on embankment with a number of bridges and a large flyover. It will extend from the southern by-pass road at Botley to the Woodstock road about half a mile north-west of its junction with the Oxford northern by-pass.



Inset:

Diagram showing the arrangement of the rolls, which are adjustable to control the flange and web thickness. The adjustment does not appreciably alter the inner dimensions.

NEW BRIDGE-BUILDING SECTIONS FROM OUR NEW UNIVERSAL BEAM MILL

We are now rolling a wide range of heavy sections up to 36" by 16½", in many weights and having a greater load-carrying capacity than any hitherto available in this country.

These greatly extend the range of rolled sections suitable, as rolled, for bridge spans.

Some of the 'H' sections permit exceptionally compact construction where height is at a premium.

We also roll 'H' sections for columns up to 14" by 16" available in a range of different weights.

EARLY DELIVERY OF THE FULL RANGE OF SECTIONS

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The new beam sections range down to 8" by 5½", and the columns down to 6" by 6". British Standard Beams, channels and angles continue to be available.

COMMERCIAL AVIATION

Rylands Interests Expand

Q.E.A. TO NEW ZEALAND

TWO recent reports have indicated an expansion of the aeronautical interests of Mr. Eric Rylands. One is the purchase by Samlesbury Engineering, Limited, one of the Rylands group of companies, of Edgar Percival, Limited, which builds the EP9 general-purpose aircraft. This machine has been particularly successful for crop spraying and other agricultural purposes. The company is to be retitled Lancashire Aircraft Corporation, Limited, thus reviving the name under which Mr. Rylands carried on his early air transport operations and which continued in use until the transfer of the business to British Aviation Services, Limited. The second report, which still required confirmation when we went to press, was that the British Overseas Airways Corporation was to sell four-fifths of its holding in Bahamas Airways, Limited, to Mr. David Brown, chairman and managing director of the David Brown Corporation, Limited, and Mr. Rylands, who is also managing director of Skyways, Limited.

Anglo-Spanish Services Talks

Negotiations took place in Madrid from November 3 to 8, 1958, between representatives of the United Kingdom and Spanish Governments as a result of which both delegations agreed to recommend to the Governments new route schedules to take the place of those annexed to the U.K.—Spain Air Services Agreement of July, 1950.

American Has Traffic Increase

American Airlines has reported increases in passenger and cargo traffic for October compared with the same month a year ago. It flew 758,000 passengers some 465 million passenger-miles, increases of 4.2 and 6.7 per cent respectively over October, 1957, and produced 9,886,000 ton miles of airfreight. This was a gain of 28.4 per cent. Total cargo carried, including mail, express and freight, was up 25 per cent to 12,866,000 ton miles for October. The airline attributed some of the increase in traffic to the recent strike on Capital Airlines, which began in mid-October.

First Aer Lingus Friendships Delivered

Aer Lingus took delivery on November 19 at Schiphol Airport of the first two of the seven Fokker Friendship turboprop air liners which the company has ordered. The remaining five will be delivered by April 30 next year. Aer Lingus will be the first European airline to operate Friendships and the aircraft will be serving on the routes from Dublin to Birmingham, Bristol, Cardiff, Edinburgh, Glasgow, Isle of Man, Liverpool and Manchester. Prior to regular Friendship services, which will be operating on some routes by Christmas—the Paris service will be the first regular operation—there will be demonstration flights in Britain.

Tasman Flights by Q.E.A.

Qantas Empire Airways will enter the Tasman air passenger trade under charter on December 7 when it will commence its Pacific service from Melbourne via Auckland and Nandi, Fiji. The service, operated once a week with Super Constellation aircraft, will be run under charter to Tasman Empire Airways on the Melbourne—Auckland—Nandi section. This move implements terms accepted by the New Zealand Government under the recent agreement with Australia over the re-equipment of T.E.A. with Lockheed Electra aircraft. Tasman will continue to run its weekly Auckland—Melbourne service and its twice-weekly Douglas DC6 service between Auckland and Nandi. The new Qantas service will mean there will be two flights weekly between Auckland and Melbourne from December 7, instead of the present one a week. It also means that a Qantas service will run through New Zealand on a direct route to North America and Europe once a week.

New B.E.A. Inclusive Tours Approved

The Minister of Transport and Civil Aviation, after considering the recommendations of the Air Transport Advisory Council, has approved the operation of the following services:

An inclusive tour service between London and Zurich; British European Airways Corporation from December 20, 1958, to March 8, 1959.

An inclusive tour service between Manchester, Birmingham and Basle; British European Airways Corporation from May 18 to August 31, 1959.

An inclusive tour service between London and Palma; British European Airways Corporation from May 9 to September 12, 1959.

An inclusive tour service between London and Nice; British European Airways Corporation from May 18 to September 7, 1959.

An inclusive tour service between London and Basle; British European Airways Corporation from May 11 to September 7, 1959.

An inclusive tour service between London and Basle; British European Airways Corporation from May 16 to August 29, 1959.

An inclusive tour service between London and Basle; British European Airways Corporation from June 1 to August 31, 1959.

An inclusive tour service between London and Nice; British European Airways Corporation from June 13 to August 29, 1959.

Date for A.A. Turbine Aircraft Operation

American Airlines new fleet of Boeing 707s and Lockheed Electras will be put into commercial service during the same weekend in January, it was announced recently by Mr. Charles A. Rheinstrom, executive vice-president (sales). The 707s Jet Flagships will commence the first jet service across the United States—between New York and Los Angeles—on Sunday, January 25, with daily nonstop flights in each direction. A second daily nonstop in each direction will commence on February 1. American will inaugurate service with the Electras between New York and Chicago on Friday, January 23—two days earlier than the starting date for the 707—with six daily nonstop flights each way. The 707 will operate between New York International Airport and Los Angeles International Airport, and the Electra will use La Guardia Airport, New York, and Midway Airport, Chicago. The 707s of American will accommodate 112 passengers—56 in the Mercury first-class section forward, and 56 in the Royal Coachman aircoach area in the aft cabin. Seating will be two abreast in the Mercury section with a lounge for relaxation. The aircoach area will be three abreast. Electras will seat 68 in an all first-class configuration with two-abreast seating arrangement and a lounge which, like the 707 lounge, will not be sold. Scheduled flying time for the 707 between New York and Los Angeles will be 4½ hr. eastbound, and 5½ hr. westbound because of prevailing winds. The jet will reduce by 40 per cent the time required by the fastest piston-engined aircraft now flying the transcontinental nonstop route.

RETIREMENT OF L.M.R. CHIEF CIVIL ENGINEER



J. Taylor Thompson

Mr. J. TAYLOR THOMPSON, M.C.,
M.I.C.E., J.P.

• • • • •

When he retires from the post of chief civil engineer, London Midland Region, British Railways, on December 31, as already foreshadowed in MODERN TRANSPORT, Mr. J. Taylor Thompson will have seen well under way the many works connected with that region's main-line electrification scheme. He entered the service of the North Eastern Railway at Newcastle upon Tyne at an early age and was later engaged mainly on new works, being closely associated with schemes for developing the coal-shipping facilities on the North East Coast. After service in the 1914-18 war he returned to the railway and was engaged on underpinning work on the foundations of the High Level Bridge at Newcastle and on other works in that area. In 1925 he was made personal assistant to the engineer at York and later, as assistant to engineer, was concerned with questions of organisation and new works, including the York—Northallerton widening and the new inward goods yard at Hull. In 1935 he was appointed district engineer at Darlington and at the end of 1936 became assistant engineer, North Eastern Area, L.N.E.R. In 1942 he was appointed engineer, York, and became civil engineer, North Eastern Region, in 1948. On May 1, 1951, he took up with the London Midland Region a similar post which was subsequently re-titled chief civil engineer. He was chairman of the Yorkshire Association of the Institution of Civil Engineers in 1939-40 and on two occasions was awarded the Trevithick Premium of that Institution. He is a past president (1948-49) of the Permanent Way Institution.

IN PARLIAMENT

Rural Transport

M.o.T. AND TREASURY SURVEY

REPLYING to an adjournment motion drawing attention to the "lamentable deterioration" in rural transport, with special reference to the report of the Northumberland Rural Community Council, Mr. G. R. H. NUGENT, said it was possible to see a more cheerful side to the picture, namely the fast growth in new registrations of cars. In the past 10 years motor vehicles had more than doubled in numbers, from 3.4 million in 1947 to 7.4 million last year, and already, in the first nine months of this year, there were just under 750,000 new registrations. New registrations were, in fact, likely to be a record this year. There was a problem to be faced here, but the Government did not accept it a responsibility to lay on a social service, subsidised by public funds, to provide transport in these areas.

There had been close discussions with the traffic commissioners following the publication of the Northumberland report and their direct influence was doing a great deal to keep these rural services going. His department had been studying the problem and the evidence, with the Treasury, during the summer. The fruits of this survey would be made known when there was something to report.

Not-So-Incidental Intelligence

There are now about 850 advisory boards of a central or national character advising the Government. (Mr. J. E. S. SIMON, Financial Secretary to the Treasury.)

Density of Traffic

The number of people for each motor vehicle licensed—including motor-cycles—was about 11 in 1951, is now between six and seven, and if present trends continue, will be about five in 1961. During peak hours there are estimated to be between three and four motor vehicles in use on each mile of road. (The Minister of Transport, in reply to questions.)

Money for British Railways

Answering Mr. G. NABARRO on the subject of railway modernisation, Mr. H. WATKINSON maintained that this year the B.T.C. had had everything that it asked for. As for 1959, although at the moment the Commission had certainly had all that it had asked for, he was anxious that modernisation should be pressed forward as fast as possible and they were looking at the matter again in order to make sure that the Commission had all the money that it could possibly use.

Severn Road Bridge

Mr. J. P. MARQUAND suggested that in view of the Government decision to increase investment in the public sector, and the fact that there was capacity for producing structural steel now available in Middlesbrough and the Tees-side area, the Minister of Transport could accelerate the date for starting the Severn road bridge. Mr. H. WATKINSON told him that this was a very large engineering project which required special treatment for the cables and it was necessary, therefore, for technical reasons, that it should be phased in with the Forth Bridge.

Insurance of Transport Workers Abroad

Mr. R. PRENTICE asked what changes the Government proposed to introduce in the national insurance and industrial injuries schemes, as a result of the recent European convention of the International Labour Organisation on the social security rights of transport workers, which was designed to protect the position of these workers when their duties take them abroad. Mr. W. VANE, Joint Parliamentary Secretary, Ministry of Pensions and National Insurance, said that they did not propose to sign this convention because it would involve transferring certain transport workers out of the scope of the British scheme of industrial injuries insurance without any guarantee that the foreign scheme under which they became insured would provide benefits for their dependants if they suffered fatal accidents.

Compulsory Arbitration Ended

Opposition attempts to have the regulations providing for the abolition of the Industrial Disputes Tribunal annulled were unsuccessful in a debate on November 19. The debate was opened by Mr. A. ROBENS. He said that as the Industrial Disputes Order had been so advantageous in helping to preserve industrial peace, the Opposition felt there should be permanent legislation enshrining what was best in the order. The employers said that the order was one-sided, but why annul the whole order because of a few odd cases? It was also said that the trade unions had refused to appear before the tribunal. There were four such cases. That was not a good enough argument for revoking the order when compared with the 1,160 cases that were settled.

The central dilemma, said the Minister of Labour, Mr. I. MACLEOD, was, if the representatives of industry held differing views, did the Minister of Labour impose on industry a system of compulsory arbitration, or did he recognise that such a system could only rest on agreement? The revocation of the order would be a development in the working of the voluntary system. It might be expected that the Industrial Court, which dealt now with only some 40 cases a year, would have a heavier load to carry. He thought the conciliation services of the Ministry of Labour might be used more than they had been in the past few years, and that there would be a strengthening and a growth of voluntary agreements. Winding up the debate, the Parliamentary Secretary, Mr. F. LEE, promised that the Minister would examine whether there was a case for legislation for a procedure on issues.

The Board of Trade is offering 10,000 tons of copper for delivery and pricing during a period to the end of January, 1959. Some 8,000 tons will be offered to the original suppliers or their agents and the remainder by open tender. In addition, a small quantity of copper cakes is being released to consumers immediately.

Mr. H. Tudor Williams, M.C., M.Inst.T., who has been transport supervisor, Scribbans-Kemp, Limited, for the past 13 years, retired yesterday (November 28) but will continue in an advisory capacity. A member of the council of the Mansion House Association on Transport, Mr. Tudor Williams advises us that he will also be available as a transport consultant.

THEY CAN CAN COAL IN FRANCE



Charbonnages de France (the French coal authority) have found a clean, easy way to deliver coal—by packing it in corrugated sheet steel. This pack is a specially designed triangular jerrican holding 33 pounds of coal. The coal is delivered in the can, to be tipped from it straight into the stove or grate, thus avoiding the dusty, dirty shifting of coal from sack to cellar to scuttle to fire.

STEEL'S VERSATILITY

This is only one example of the many uses of sheet steel. Others more familiar (though no less enterprising) include sheet steel for railway carriages and wagons; guttering and steel ducting; kegs, drums, cans and cisterns; oil stoves, washing machines, refrigerators and office furniture.

The motor car industry in particular has used the increasing versatility of sheet steel to good advantage. The strength and flowing lines of today's motor car body reflect the continuous improvement in steel qualities to suit modern press shop practice.

CONSISTENT QUALITY

Powerful presses shape a flat sheet of steel into smooth curves and crisp contours forming body panels, wings and doors—strong, light and free from distortion. Pressings such as these with their bold moulding and intricate detail require steel of consistent quality and ductility.

By its concentration on the wide continuous strip mill process, The Steel Company of Wales has been able to supply such steel in the necessary quantity, thus making a substantial contribution to the development of the motor car industry.

INCREASING QUANTITY

The Steel Company of Wales was specifically formed to meet the growing demand for high quality steel of this type and it already makes over one-third of Britain's sheet steel. Research and development continue: new plant, planned and under construction, will push production up and up.

It has always been the policy of The Steel Company of Wales to pay particular attention to customers' specific problems, and to ensure that its products are "tailor-made" to individual requirements. If you have an industrial problem which sheet steel might help to solve, it will be worth your while to write to us or telephone Port Talbot 3161. We believe we can help.



THE STEEL COMPANY OF WALES LIMITED

Steel Division: Abbey Works, Port Talbot, Glam. Telephone: Port Talbot 3161. Telegrams: Steel, Port Talbot

DOCKSIDE TRAMWAY CLOSES

End of a Unique Operation

DURING the war the story was told in Scotland of an R.A.F. sergeant who was driving back to camp after a boisterous evening in Glasgow when he saw a railway train coming at him along the tramlines. When he got to camp, no one would believe him; after that he left the whisky alone, at least for a while.

Be that as it may, the train was not a figment of his imagination. At that time steam locomotives and wagons were frequently running along the

service No. 12. The sharing of tram tracks by shipyard trains in Glasgow dates back more than 80 years, and is made possible by Glasgow's tramway gauge of 4 ft. 7½ in., which permits the deep flanges of the 4 ft. 8½ in. railway vehicles to fit into the grooves of the tramway rails without requiring a deep groove of the sort common in dock areas, but which would not be permitted along the centre of a main road.

The workings shown in the photographs link



Andrew Barclay 0-4-0 saddle tank of Alexander Stephen and Sons, Limited, at the entrance to Linthouse Shipyard and, lower view, the English Electric battery locomotive. Trams were finally withdrawn on November 16 after 10 weeks wherein there was only a peak-hour service

tramlines at Linthouse; the operation can still be seen today. The only change is that from November 16, 1958, the tramlines became technically railway lines, owing to the final cessation of electric tramway operation along the streets concerned, in Govan, Linthouse and Shieldhall. All-day service ceased on September 7, with the withdrawal of tram service No. 4, but the track has remained in use since then for certain rush-hour workings on

Shieldhall goods yard of British Railways with the Linthouse Shipbuilding Yard of Alexander Stephen and Sons, Limited, and are handled by an English Electric battery locomotive of 1919 and an Andrew Barclay 0-4-0 steam saddle tank of 1924. Horse traction had been used in the earliest years of the operation. The road along which the railway vehicles are operated is now served by Corporation buses and trolleybuses.

Free Pensions and Life Insurance

NEW PRESSED STEEL SCHEME

RECENTLY the Pressed Steel Co., Limited, of Cowley, Reading, Swindon and Paisley—and shortly to open a further major plant in Swansea—announced an entirely new retirement pension scheme for its factory workers and improved pensions benefits for its office staff. Henceforward all its factory workers will be entitled to substantial free life insurance during their employment, and to free, non-contributory pensions on normal retirement after 10 years' service. This is all part of their regular terms of engagement. There will also be special benefits for the widows or dependants of any employee dying shortly after retirement.

Rate of pension for factory workers will be decided by years of continuous service with the company up to 30 years. A factory worker for instance will normally be entitled to 1s. a week for every year of continuous service, provided he has served at least 10 continuous years when he is 65. This simple basis has been chosen so that any employee can easily calculate his pension rate for himself. Every adult works employee under 65 who has roughly a year's service to his credit, will qualify for free life insurance on a scale beginning at £250 and rising to £500.

Existing Contributors

Members of the staff pension fund, which is already in existence, will also receive larger free life insurance, and will henceforth pay smaller contributions towards their pensions. These contributions will be on favourable terms, the company paying the greater part of the cost. Both factory workers and staff will, if they wish, be able to make voluntary contributions, which will secure for them higher pensions or additional endowment assurance on very favourable terms. These are the main provisions of the pension and insurance schemes, the complete details of which have been issued in book form to each of the Company's 17,000 employees.

The Pressed Steel Company has emphasised that the introduction of the plan at this time is in no way a reflection on any official proposals, or any national scheme which may result. But the company recognises, too, that it employs a large proportion of skilled and highly paid workers—and has been considering whether a man who has, by his own efforts, enjoyed a high standard of living throughout his working life, should be reduced to the general average when he retires.

"It is impossible for me to foresee whether or

not the company will require to adjust its employee pension and life assurance arrangements when the Government scheme is finally introduced," said Mr. J. R. Edwards, Pressed Steel managing director, "but it is the present intention of the company to maintain arrangements which will ensure that its employees should always be better off than if they had to rely only on the minimum State benefits."

Although the company's first works insurance scheme was introduced in 1929—a time when such things were most unusual, special arrangements were made to ensure that everyone should be fully and properly informed about the new scheme. Every member of management was in particular "put in the picture" well in advance, so that he would be ready to answer any questions from the employees in his department, on the day when the notices were posted up in the works. A series of private briefing meetings was arranged in the company's four factories, in the week preceding the announcement. There will be full-scale works meetings, later, at which employees can meet the company's pension and insurance advisers.



On November 21 H.R.H. the Duke of Edinburgh, opened the new Ferodo research laboratories at Chapel-en-le-Frith. With him in this inspection scene are (left to right) Messrs. A. D. Flood, electronics laboratory, Dr. R. C. Parker, director of research, W. Vernon and G. S. Sutcliffe, chairman of the company



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But the Blue Train represents only one facet of the service provided by South African Railways. A widespread network conveys travellers from point to point with comfort and despatch and transports immense quantities of goods from inland centres to the ports and from the ports to industries and communities far in the interior.

SOUTH AFRICAN RAILWAYS

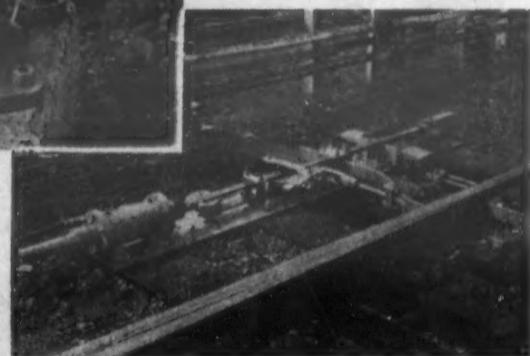
Information regarding the facilities offered by South African Railways will be gladly supplied on application to the

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Agents: Bellamy & Lambie, Johannesburg

OFFICIAL NOTICES

NORTH WESTERN ROAD CAR COMPANY,
LIMITED

TRAFFIC MANAGER

THE Traffic Manager of the Company, Mr. J. Green, on whom the Queen has recently conferred the M.B.E., has indicated his intention to retire at the end of January, 1959. In consequence the Company invites applications for the position of Traffic Manager which will then become vacant. The Company, whose headquarters are at Charles Street, Stockport, operates some 600 vehicles on stage carriage services in Cheshire, Derbyshire, South-East Lancashire, and Yorkshire, and on express services, excursions and tours, and contract work.

Applications, which will be treated in strict confidence, should give, (a) the usual personal particulars of age, education, qualifications, and (if married) family, (b) a short summary of experience, with details of existing and previous appointments, and (c) present salary, and should be forwarded to the General Manager at Charles Street, Stockport, not later than Friday, December 12, 1958.

EAST YORKSHIRE MOTOR SERVICES,
LIMITED

CHIEF SCHEDULES CLERK

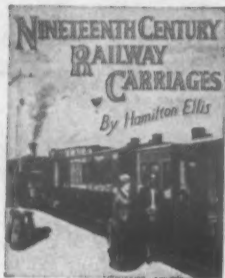
EAST Yorkshire Motor Services, Limited, invite applications for the position of Chief Schedules Clerk. Applicants should have had experience in compiling drivers' and conductors' duty schedules and rotas and be capable of dealing with this work for a fleet of 240 public service vehicles. General experience in other sections of a traffic department will be an advantage.

Salary will be dependent upon the experience of the successful applicant, who will be required to

reside in the Hull district and work at the address stated below.

Applications (which will be treated in strict confidence) should be marked "Confidential" and addressed to the General Manager of the Company, 252 Anlaby Road, Hull, Yorkshire, giving details of age, qualifications, previous experience and present appointment.

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ROAD VEHICLE INDUSTRY

Lightweight Linen Covers

AN Aberdeen flax manufacturer, Richards, Limited, has introduced a new range of lightweight linen tarpaulin canvases, in designing which the firm has departed from the traditional flax tarpaulin canvas construction and has substituted the technique of fine linen manu-

wide range of colours. Various proofings can be applied, including a new type which does not "mark-off" when rubbed against other articles and is also waterproof and mildew resistant. The new range includes flax ducks of various tensile and tearing strength for use under differing conditions



Inspecting the first of C.I.E.'s 35 new 74-seat double-deckers on Leyland automatic-transmission chassis are (left to right) Mr. D. Herlihy, chief engineer, Dr. C. S. Andrews, chairman, Mr. F. Lemass, general manager, Mr. J. B. Martin, manager road passenger section, and Mr. D. Johnston, manager Spa Road; right, automatic transmission is also a feature of the prototype Gardner-engined Guy with Burlington 66-seat body here seen at the handing over ceremony to Wolverhampton Corporation Transport Department. Left to right are Mr. B. Foster, Guy sales manager (p.s.v.), Mr. R. H. Adlesse, Wolverhampton general manager, Mr. W. L. Drummond, Guy sales director, Alderman F. Mansell, transport committee chairman, and Mr. D. P. Martin, Wolverhampton deputy general manager and chief engineer

facture. This has produced a smooth level evenly balanced fabric of very close construction with greatly improved water and weather resistance. The new materials are only 16 oz. per sq. yd. in weight unproofed and 18 to 20 oz. proofed. They are flexible and easy to handle and available in a

and is finding its main outlet in covers for road haulage and similar work.

Atkinson Price Reduction

REDUCTION in prices of Atkinson chassis has been announced by Atkinson Vehicles, Limited, Walton-le-Dale, Preston, made possible by increased efficiency at the works and a high level of production. Particulars are available from the company's head office or distributors.

I.A.M. and Business Drivers

AN important development in the work of the Institute of Advanced Motorists is an ever-increasing number of candidates entered for the advanced driving test on cars by Commercial firms. Business houses employing salesmen and travellers, car-delivery companies and car-hire firms are finding it more and more important to take every possible step to cut out accidents. Where management pays test fees, the institute renders where required a comprehensive report.

Guy 24-hour Service Extended

DAY and night service facilities already in existence at Guy Motors Wolverhampton headquarters at Fallings Park have now been extended to the company's London depot at Porteous House, Porteous Road, Paddington. Similar 24-hour service for Guy operators is available at Barker and Williams, Limited, Bordesley Green, Birmingham, 9, Marshall's Garage (Bawtry), Limited, Bawtry, Yorks, and T. G. B. Motors, Limited, at both Junction Street, Burnley, and Woone Lane, Clitheroe, Lancs, and further extension of the scheme is envisaged.

Girling CSV Damper

WHAT are claimed to be the most advanced telescopic dampers in Europe are now being manufactured by Girling, Limited. The new CSV damper range is of 1-in. and 1½-in. bore and has ample capacity for light commercial vehicles. Designed to ensure the maintenance of maximum setting over a long life, outstanding points in the construction are low-stress valve parts for trouble-free operation and maintenance of setting; hard chromium-plated piston rod ensuring maximum life and minimum seal wear; multi-lip seal guarding against leakage of damper fluid throughout the life of the damper; and super-finished working cylinder.

Improved Handbrake

DESIGNED to meet the requirements of heavy two-axle vehicles, a new handbrake developed by Neate Brake Controls, Limited, designated NBC14, gives more effective braking without recourse to a multiple-pull mechanism. The unit, which is said to require no more space than a conventional handbrake and has automatic adjustment, achieves its effect by means of a secondary lever which is forced about a cam to take up slack quickly and thereafter to increase the lever advantage. Tested on a typical 14-ton chassis, a 9-in. lever handle travel produced 1½ deg. brake camshaft travel and a dynamometer reading of 1,064 lb. compared with 15-in. lever travel for similar effective movement with 728 lb. dynamometer reading with a normal handbrake.

DIESEL LOCOMOTIVE

(Continued from page 3)

of the same design are being supplied to the Scottish Region. These, however, will weigh 74 tons in working order as compared with 77 tons and the axle load will be ½ ton less at 18½ tons. As has been indicated in our columns on previous occasions, it is considered that the entry of the diesels into service should have a considerable

MOTIVE POWER PROGRAMME

	November 1958	1961 (Estimated)
Main-line Diesel Locomotives	44	400
Diesel Shunters	282	390
Multiple-Unit Diesel Sets (two-car)	142	160
" " (three-car)	5	20
Diesel "Railbuses"	3	3
Multiple-Unit Electric Sets (four-car)	32	230
" " (three-car)	92	195
" " (two-car)	—	7
Electric Locomotives	65	94

effect upon the punctuality of the suburban services. This concerns particularly the trains from Moorgate since steam locomotives frequently experience considerable difficulty in starting from Platform 16 at Kings Cross. Since diesel locomotives will also be taking over main-line train workings from Kings Cross it is anticipated that there will be a steady reduction in the amount of smoke swirling about the station. The anticipated progress of the Eastern Region motive power modernisation is set out in an accompanying table.

SULZER

Sulzer Diesel Engines for Railway Traction

Sulzer 6LDA28 diesel engines with a continuous rating of 1160 H.P. are fitted to both of these British Railways Type 2 locomotives. In the 114 locomotives of the D5000 series under construction in British Railways' workshops, the electrical equipment is by British Thomson-Houston. In the 38 locomotives of the D5300 series being built by the Birmingham Railway Carriage and Wagon Co. Ltd., the electrical equipment is supplied by Crompton Parkinson.

Photographs by courtesy of British Railways and Birmingham Railway Carriage and Wagon Co. Ltd.

Sulzer diesel engines are manufactured in Great Britain by Vickers-Armstrongs (Engineers) Ltd., Barrow-in-Furness.

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MODERN AIRWAYS and COMMERCIAL AVIATION SECTION

THINKING IN MILLIONS

Traffic at New York Airports

INTERNATIONAL, LA GUARDIA AND NEWARK

FOR a variety of reasons, some of which are of greater validity than others, it is still difficult to bring home the potentialities of air transport to Europeans. It is true that there has generally been an increase in air travel but it needs a visit to the United States really to bring home the volume of traffic moving by air. When the centre concerned is not only of major importance in its own right, but also serves as one of the principal gateways of the country, the combined effect is indeed marked. In 1957 the three main airports serving New York handled 13,392,000 passengers of which 5,692,000 went through La Guardia, 5,200,000 through Idlewild or, more officially, New York International Airport, and 2,500,000 through Newark. All these airports, together with that at Teterboro, which is concerned

important ground passenger transport facilities in Manhattan. The heliport comprises two paved touchdown pads, each 80 ft. square, projecting from the bulkhead, and a 50 ft. square paved helicopter parking area between the pads, with two additional paved tie-down areas at either end. There is a terminal building measuring 50 ft. by 20 ft. at the northern end of the site.

As part of its master regional heliport plan, the authority plans a \$5 million heliport capable of handling six large helicopters at one time to replace the facility at West 30th Street, together with two additional heliports in Manhattan and one each in Brooklyn, Staten Island, and Newark. It should be added that the P.N.Y.A. has itself played a considerable part in the development of helicopter operations in the New York area and has been operating its own machine since 1951. In addition New York Airways has developed a substantial service between the airports and also to the West 30th Heliport. The recent introduction of twin-rotor Vertol machines seems to have done much to build up traffic.

New York International

Construction of New York International Airport was begun by the city of New York in 1942 on the basis of a planned area of 1,100 acres which was twice the size of La Guardia. As things have turned out, the area which it now occupies is 4,900 acres. Part of the site was previously marsh, a further portion was a golf course and the remainder has been reclaimed from the waters of Jamaica Bay. The city at a cost of \$60 million reclaimed and levelled the site, provided main services, and built six runways, two hangars and a small administration building before leasing the airport to the Port of New York Authority in 1947. That body opened the airport to traffic in July of the following year, by which time it had brought four runways into use and constructed the necessary taxi-tracks. A fifth runway was added subsequently which was fully instrumented and then, in 1952, a new 11-storey control tower was put into operation.

Since it took over responsibility the authority has completed eight large hangars and it now has three more under way. The Federal Building, which cost \$5 million, houses the regional offices of the U.S. Civil Aeronautics Administration and of other Federal agencies. Four buildings were put up to form an industrial unit and a large operations building was also erected. The next step was to create an air cargo centre and this was completed in 1956. In the following year it handled 170 million lb. of freight! Meanwhile construction work had been going on with the international arrival building which was designed deliberately to dominate the whole terminal area. It certainly achieves its aim! Setting out its dimensions can really do very little to convey the impression it makes but, for the sake of the record,

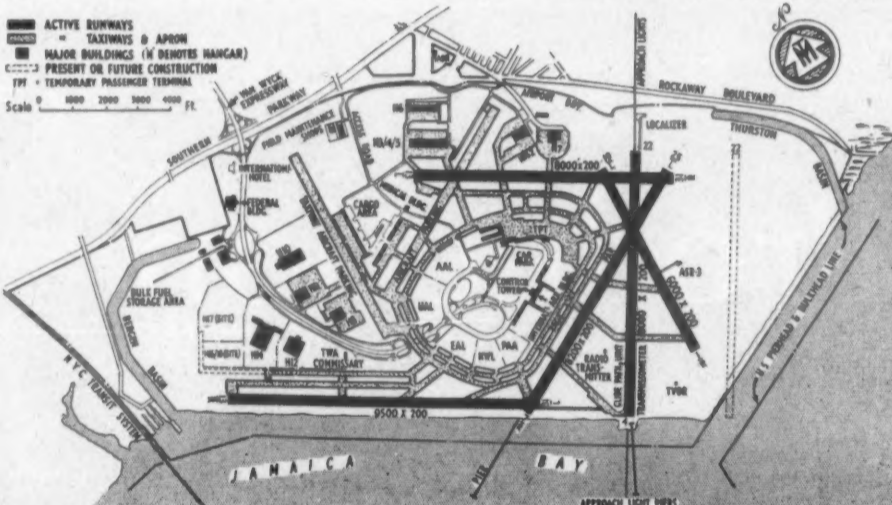


Airports and heliport operated by the Port of New York Authority showing their relation to the city

primarily with business and private flying and the West 30th Street Heliport, are the responsibility of the Port of New York Authority.

Newark

It may be recalled that this authority was created by a treaty between the states of New Jersey and New York in 1921 with the purpose of dealing with the planning and development of terminal and transport facilities and improving and protecting the trade of the port district. The oldest of the commercial airports is Newark, New Jersey. The city of Newark opened it in 1928 and it was for 11 years the only airport available for airlines in the New York area. Under the terms of an agreement concluded in 1948 the Port of New York Authority operates the airport on a long-term lease and it has, since then, carried out very considerable improvement works. A 7,000-ft. instrument runway was built at a cost of \$9 million



New York International Airport showing existing and future construction. Since this diagram was prepared the hotel has been completed

and opened in 1952. Further work on it made it suitable for complete bi-directional use early this year.

The year after the new runway was opened came the completion of a new passenger terminal which cost only \$500,000 less than the runway. The next major work was a large hangar for United Airlines and that was finished last March. Work is now in progress on a new control tower which will be 150 ft. high and on a four-building air freight centre. This is intended to cater particularly for all-freight services which have been centred on this airport with marked success. Indeed in 1957 the cargo handled amounted to 90,271,000 lb. So far as passenger traffic is concerned, the overall plan for airport development envisages Newark being used mainly by medium- and long-distance passengers.

La Guardia

It is considered that La Guardia Airport with 245,340 aircraft movements in 1957 is one of the busiest in the world and there is every intention of developing it further. It is true that when it was developed in 1939 it was to serve both international and domestic traffic and that its role has now changed with the movement of the former to Idlewild but this has simplified the planning of the new buildings. Opened by New York City, it became a P.N.Y.A. responsibility in 1947 and last year work began on a redevelopment programme which will, in all, cost some \$35 million. It involves quadrupling the size of the passenger terminal building so that the anticipated 7 million travellers can be handled in 1965. There is also to be a new control tower.

Before turning to New York International Airport, which is the largest project on the aviation side of the authority's activities, reference should be made to the opening in 1956 of the heliport on West 30th Street. It is located on a 70 ft. by 400 ft. strip of land along the Hudson River that was chosen because of its nearness to the Post Office and U.S. Parcel Post buildings, as well as to

it should be said that it is three storeys high and, with the two airline wing buildings, 2,300 ft. long. The control tower lies on the land side of its centre and beyond the International Park which is most attractively laid out. The main building has been designed to avoid confused movement of passengers or visitors and to avoid conflicting streams. This is felt to have been achieved with marked success and to represent an enormous improvement on procedure in the old building.

Individual Terminals

Design of the Terminal City provides a number of sites around the perimeter of the terminal area which are being used by the larger United States airlines to construct their own terminal buildings. Other operators will continue to use the temporary terminal building until it is possible to replace it. The basic design envisages the handling of 140 aircraft at a time and there are traffic estimates which expect 19 million passengers to be handled in 1975, of whom 12 million would come within the domestic category. It is, of course, necessary for other facilities to keep pace with increasing demand and on the air side work is going ahead on another instrument runway (04-22) parallel to the existing one. Landwards there is the new International Hotel with 320 rooms, which is close to the access road from the parkways.

It is very easy to be overwhelmed by statistics when dealing with United States affairs but it must be remarked that present plans anticipate a total of 24 million passengers using the four airports in 1965, as compared with 13,500,000 in 1957. The P.N.Y.A. is a self-supporting agency and goes to some trouble to emphasise that it represents no burden to the taxpayer. It also stresses, with reason, the economic role of the airports and their contribution to the wellbeing of the area. Almost 30,000 people are employed at New York International, La Guardia and Newark airports and their annual payroll exceeds \$171 million. The consequential effects are also, of course, both widespread and considerable.



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CLASSIFIED ADVERTISEMENTS

CLASSIFIED ADVERTISEMENTS should be addressed to THE MANAGER, Classified Advertisements, MODERN TRANSPORT, Russell Court, 3-16 Woburn Place, London, W.C.1.

SITUATION WANTED

A NATIONAL organisation wish to put on record that their Chief Transport Officer has become redundant owing to a policy of decentralisation. He is highly recommended for employment in a similar capacity and they will be happy to answer any question on his behalf. Apply Box No. 3805, MODERN TRANSPORT, 3-16 Woburn Place, W.C.1.

SITUATIONS VACANT

SKILLED MOTOR MECHANIC (experience of diesel engines) and heavy commercial vehicles essential) required for large industrial firm near Wembley. Pension fund, sports club, canteen, etc. Apply with full details of experience to Box No. 3807, MODERN TRANSPORT, 3-16 Woburn Place, W.C.1.

TRANSPORT. Man 20/25 for Transport Office of large concern on Great West Road, Brentford. Some experience driver supervision, completion usual forms and returns. Knowledge London area. Salary £9/£10 per week. Pension scheme. Canteen. Write Box No. 3803, MODERN TRANSPORT, 3-16 Woburn Place, London, W.C.1.

MODERNISATION OF DISTRICT LINE

New Upminster Depot Opening

THE first major stage in London Transport's £2½ million scheme to modernise the eastern section of the District Line will be completed on Monday, December 1, when part of the new depot at Upminster is brought into use. The District Line works are felt to constitute the most important Underground project since the postwar extensions of the Central Line. Upminster depot, costing £1 million, has some four miles of track and will accommodate 34 eight-car trains. It has a main car shed 450 ft. long with nine inspection roads and a 215-ft. long lifting shop. The new depot will be used for operating purposes

renewal after many years' service. Trains will be controlled from two push-button signal cabins at Barking and Upminster. Nine other unmanned signal cabins will be remotely controlled by one or other of the master cabins through interlocking machines of the type developed by London Transport.

As already described in MODERN TRANSPORT, London Transport improvements on the Upminster Line are linked with the track re-arrangements at Barking now being carried out by the Eastern Region. When these are completed in 1960 the flat junctions will be eliminated and both the



The new District Line depot at Upminster which comes partially into use on December 1

immediately and train examination work will also be carried out, but heavy maintenance will not be undertaken until next May when the equipping of the depot is completed.

Train movements into and out of the depot, which is at the eastern end of Upminster Station, will be directed from a 40-ft. high control tower equipped with talk-back apparatus. Instructions from the tower will be heard by the train driver concerned, and no one else, through a trackside loudspeaker. The driver's acknowledgment can be given at ordinary speech level and will be picked up by a trackside microphone and relayed back to the control tower. Forty 1,000-watt floodlights on two 150-ft. masts will light the depot tracks at night.

Replacing Signalling Equipment

The new depot replaces the present one between East Ham and Barking, the site of which is required by the Eastern Region of British Railways in connection with the electrification of the Fenchurch Street—Southend line. In addition to the new depot, the 12½ miles of the District Line from Bow Road to Upminster are now being completely re-equipped with London Transport standard signalling, replacing equipment due for

District Line and main-line services will have independent tracks. The junctions at Barking are used daily by 700 Underground and main-line trains and have been a frequent cause of delays in the past.

When it met in London on November 26 the Central Transport Consultative Committee agreed with the proposals of the British Transport Commission to close the Midland and Great Northern line of the Eastern Region.

The Northern Ireland Development Council announced recently that Camco Incorporated, Houston, Texas, U.S.A., is establishing a subsidiary company in Belfast. This subsidiary, Camco, Limited, will manufacture Camco equipment for export to all the oil-producing areas of the world except the U.S.A. Camco manufactures gas-lift valves and allied equipment used to produce oil from wells which have ceased to flow naturally. It is planned to start production early in December in an 18,000-sq. ft. Government advance factory on the Curranmoney Industrial Estate on the outskirts of Belfast. It is hoped to provide employment at the outset for about 60 men.

Precision FIRST AND LAST



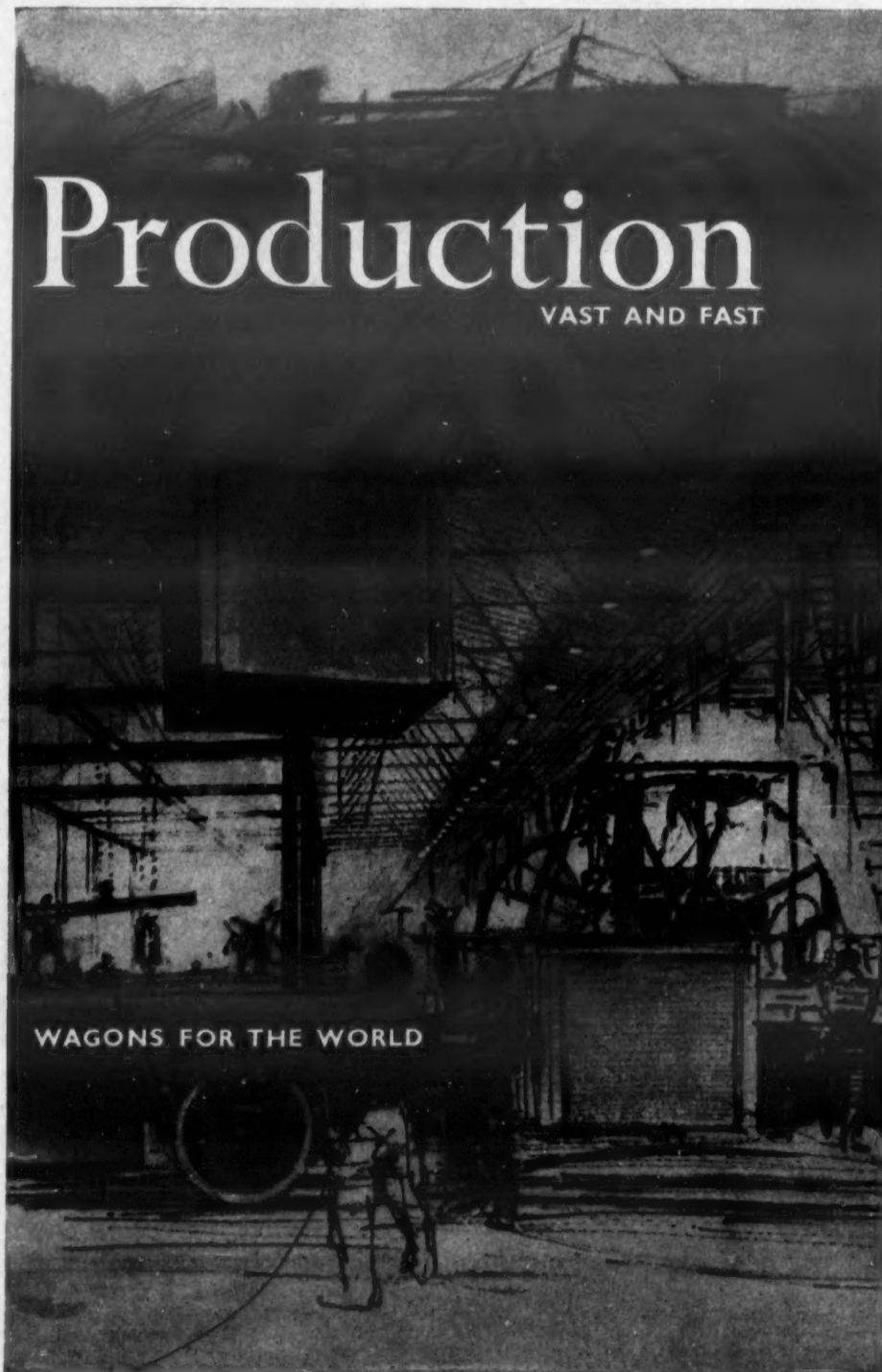
Pressed Steel

In the last ten years, Pressed Steel have produced enough railway wagons to make a train more than 300 miles long. Wagons of all kinds and all gauges for home and overseas. But sheer capacity—the ability to meet big orders and meet them quickly—is only half the story. The other half is just as important, even though it cannot be expressed in statistics—the finish, the painstaking attention to detail, the skill and experience of the men you see here.

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Manufacturers also of Motor Car Bodies, Prestcold Refrigeration Equipment and Pressings of all kinds.

Production VAST AND FAST



WAGONS FOR THE WORLD

SOCIAL AND PERSONAL

L.M.R. Traffic Divisions

WITH the appointment of Mr. George Dow, M.Inst.T., A.I.Loco.E., as divisional traffic manager, West Midland division, with headquarters in Birmingham, the London Midland Region has announced traffic managers for each of its six new divisions. The position of divisional traffic manager for the West Midland area which Mr. Dow will shortly be taking up is a key one in the reorganisation scheme of the London Midland Region. Mr. Dow who for the past year has been commercial officer, has had a varied railway career. Before transferring to the commercial side of the railway business 3½ years ago he was public relations and publicity officer of the London Midland Region and in that capacity completely reorganised that department and initiated numerous developments in poster technique, modern signs, advertising display equipment and layout of stations. Well known as a lecturer and author on railway subjects, Mr. Dow has been a railwayman for 31 years. He was educated at Watford Grammar School



Mr. George Dow

and Brighton College. He has a seat on the board of the United Counties Omnibus Co., Limited.

Mr. Eamonn Ceannt, B.Comm., has been loaned to -Coras Iompair Eireann as administrative assistant on organisation.

Mr. H. Samuel has been appointed senior instructor (operating), British Railways Staff Training College, Derby.

Mr. F. J. Billyard has resigned his post as sales manager with W. S. Yeates, Limited, and is joining Thomas Harrington, Limited, as Northern area sales manager.

Mr. J. R. Hanchett, A.M.I.E.E., A.M.Inst.T., rolling stock engineer, Huddersfield Corporation Transport Department, was this week recommended for the post of deputy transport manager with Reading Corporation Transport.

The death is announced of Mr. Charles F. Kettering, the fertile U.S. inventor who was responsible for the first successful automotive engine starter. Aged 82, he was a former vice-president of the General Motors Corporation.

The board of the Railway Benevolent Institution at its November meeting granted annuities to four widows and four members involving an additional liability of £165 per annum; 87 gratuities were also granted amounting to £825 to meet cases of immediate necessity.

Mr. J. Green, M.Inst.T., traffic manager, North Western Road Car Co., Limited, has indicated his intention to retire at the end of January, 1959. Mr. Green recently went to Buckingham Palace to receive from H.M. the Queen the award of the M.B.E.

Sir Leslie Rowan, K.C.B., C.V.O., and Mr. R. P. H. Yapp (who is a director of Vickers-Armstrongs, Limited), have been appointed to the board of Vickers, Limited. Sir Leslie Rowan was Second Secretary of H.M. Treasury on his retirement from the public service; Mr. Yapp is already a special director of Vickers and is controller of administration of that company. He is also director of administration of Vickers-Armstrongs and a director of its aircraft, engineering, shipbuilding and tractor subsidiaries.

A splendid performance of *Berkeley Square* was staged last week at the Rudolf Steiner Theatre by Euston Players (the L.M.R., London, Dramatic Society) as its silver jubilee production. The atmosphere of tension deriving from a man changing places with an 18th-century ancestor was well sustained without turning the occasion into melodrama. In the 25 years of its existence 31 plays and revues have been put on and preparations are already being made to produce *Pink Champagne* at the Scala on May 7-9 next year.

Mr. H. B. Nichols, senior vice-president of California Texas Oil Company, a parent company of Regent Oil Co., Limited, will co-ordinate discussion and reports on engineering equipment and materials, one of the nine sections of the Fifth World Petroleum Congress, to be held May 30-June 5, 1959, at the Coliseum, New York. Representations from 50 countries at the congress are expected to number 6,000; there will be 280 papers presented. Mr. Nichols has been a member of the permanent council since the Rome congress in 1955.

The annual dinner of the Merseyside section of the Institute of Transport was held on November 14 at the Adelphi Hotel, Liverpool, when Sir Gilmour Jenkins, past president, replied to the toast "The Institute of Transport" proposed by the chairman of the section, Mr. M. G. E. Lambert, who presided. The toast "The City of Liverpool" was proposed by Mr. W. S. Finlayson, a past chairman of the section and the reply was made by the Lord Mayor of Liverpool, Alderman Harry Livermore. Mr. A. S. Mountfield, general manager and secretary, Mersey Docks and Harbour Board, responded to the toast "Our Guests" proposed by Mr. Jeffrey Pearson (graduate), chairman, Liverpool graduate and student society. During the evening a presentation was made to Mr. J. F. R. Wiggins, in appreciation of his services as hon. secretary of the section for the past 10 years.

Mr. C. A. Gordon, assistant for modernisation works, chief civil engineer's department, has been appointed district engineer, Brighton, Southern Region, B.R. Mr. D. V. Ellison becomes assistant (finance and general), general manager's office.

Mr. R. C. Jenkins, at present traffic planning and schedules officer, City of Plymouth Transport Department, has been appointed assistant traffic superintendent with Wigan Corporation Transport Department.

Mrs. G. Russell, wife of Major-General G. N. Russell, chairman and general manager of British Road Services, presented the Walker Cup to Mr. J. Wood, branch manager of the South Yorkshire parcels branch of British Road Services at Sheffield last week. This trophy is awarded to the most efficiently run branch during the preceding year.

As already recorded Mr. Edmond A. Grace, A.C.A., has been appointed assistant general manager of Coras Iompair Eireann. Mr. Grace



Mr. E. A. Grace

was previously secretary of Odeon (Ireland), Limited, since 1954. He was with C.I.E. from 1946 until 1954, engaged on research for seven years before being appointed assistant chief accountant in 1953. His work on setting standards for road freight working was the subject of an article in MODERN TRANSPORT in our issue of April 16 this year. He acted as assistant to the late Mr. W. J. Elliott, one time director and general manager of Hay's Wharf Cartage Co., Limited, and a member of the Milne Committee when the latter was engaged by C.I.E. as a consultant on road freight operations. Mr. Grace was a member of O.E.E.C. technical mission No. 50 which visited the United States to study cost control methods in 1951 and which later produced one of the most successful O.E.E.C. technical reports—*Cost Accounting and Productivity*.

Firth Cleveland Tools, Limited, announces the appointment of Mr. F. A. Field as general sales manager. For many years Mr. Field held a similar executive position with Black and Decker, Limited.

The Australian Minister for Civil Aviation has appointed Sir Hudson Fysh, chairman of Qantas Empire Airways, as vice-chairman of Tasman Empire Airways. Sir Hudson has been a director of T.E.A.L. since its inception in 1940.

Forty-two drivers in the South Eastern Division of British Road Services this week received Ro.S.P.A. safe-driving awards; they ranged from the 20-year medal to the 32-year bar, the latter going to Driver R. Likeman, an ex-McNamara man now employed by B.R.S. (Contracts), Limited, Victoria Park branch.

A symposium on electronic and business computers is to be held during the Electronic Computer Exhibition at Olympia on November 28 to December 4. Among the papers to be presented are: "Inventory Control, Accounting and Payroll," by Mr. A. Bradley (Ford Motor Co., Limited) on the morning of December 2; and "Wages Accounting," by Mr. W. H. Sargent (Western Region, British Railways) on the afternoon of December 3.

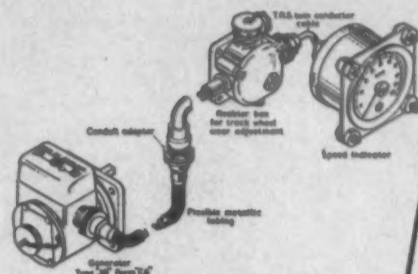


At Marylebone Station recently Sir Brian Robertson and B.T.C. officers inspected one of 20 1,200-h.p. type 2 locomotives being supplied by Metropolitan-Vickers Electrical Co., Limited. On the left are Mr. C. H. Flurscheim, director and chief electrical engineer, Metropolitan-Vickers, and Mr. F. Whyman, chief engineer, Metropolitan-Vickers traction division; on the right, Major-General L. Wansborough-Jones, secretary-general, B.T.C., Mr. R. C. Bond, technical adviser, B.T.C., and General Sir Brian Robertson, chairman, B.T.C.

Three courses in transport studies are announced to begin in January next, by the department of extra-mural studies of the University of London. There will be a short course of six weekly lectures on railways in Ireland by Mr. R. K. Kirkland, B.A.; admission fee is 8s. (2s. 6d. for members); particulars from Mr. C. Smith, B.Sc., 94 The Fairway, Wembley, Middlesex. A course of 12 weekly lectures on the bus industry: origins, problems, prospects, will be given by Messrs. J. A. Hibbs, M.Sc.(Econ.), and G. E. Baddeley, B.Com.; admission 10s.; details from the staff and welfare officer, London Transport Executive, 55 Broadway, S.W.1. Ten weekly lectures on air transport: operating and economic trends, will be given by Mr. S. F. Wheatcroft, B.Sc.(Econ.), and others; fee 10s.; details from Mr. J. A. Brock, education and training office, B.O.A.C. headquarters, London Airport.

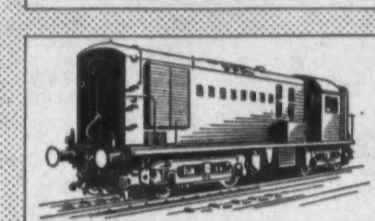
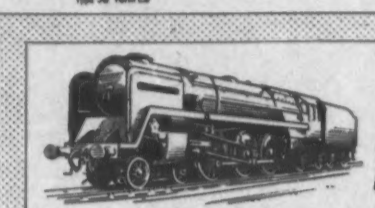
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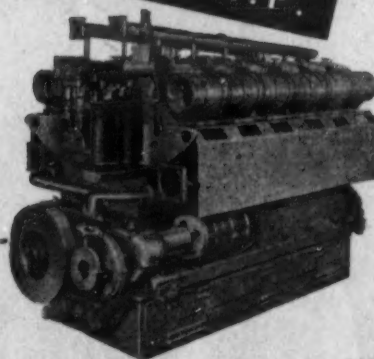
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5 years at John Summers & Sons Ltd



Paxman engined locomotives first entered service at the Hawarden Bridge Steelworks of John Summers & Sons Ltd., in 1953. Of their present fleet, seven locomotives (diesel-electric, diesel-mechanical and diesel-hydraulic) are powered by Paxman.

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DIESELS**
128-2,300 B.H.P.



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IMPORTANT CONTRACTS

A.C.V. Polish Order

DIRECTLY resulting from highly satisfactory experience gained with A.E.C. diesel lorries already operating in Poland, an order has been placed with A.C.V., Limited, by Motoimport, the state buying organisation, for 12 heavy A.E.C. Mammoth Major six-wheel road tractors for operation by the earth works and irrigation department of the Polish Ministry of Agriculture for hauling 20-ton capacity trailers. Fitted with Duramin alloy bodywork, the equipment of each vehicle includes a 50,000-lb. winch and the detailed specification has been drawn up in consultation with experts in Warsaw to provide all the required features. The Mammoth Major six-wheelers will join other A.E.C.s in Poland operated in tractor and semi-tractor combinations hauling heavy equipment and also in the bulk transport of bricks and other heavy building materials.

B.R. Clyde Fleet Radar

The Scottish Region of British Railways has placed an order with Decca Radar, Limited, Glasgow, for the fitting of radar in six vessels of its Clyde fleet.

Commer-Burlingham Agreement

An agreement between Commer Cars, Limited, and H. V. Burlingham, Limited, provides for early deliveries of Avenger-Seagull 41-seat coaches and favourable discount terms—retrospective annually. Orders placed simultaneously for chassis and coachwork within the next few weeks will ensure delivery by mid-January, 1959.

North Eastern Region Contracts

Recent contracts placed by the North Eastern Region of British Railways include the following: Johnson and Phillips, Limited, London, for e.h.v. switchboard at Leeds Neville Hill motive power depot. Associated Fire Alarms, Limited, Leeds, for installation of manual fire alarm systems at Darlington North Road and Stoperdale works.

H. Peis and Co., Limited, London, for punch, shears and cropper machine for Darlington locomotive works.

Eastern Region Contracts

The Eastern Region of British Railways announces the following contracts:

W. and C. French, Limited, Buckhurst Hill, for remedial measures in consequence of storm damage in the Stratford District (areas 1 and 2) and at slip between West Horndon and Laindon.

The Westinghouse Brake and Signal Co., Limited, London, N.1, for conversion of track circuits from auto-bond to resonant-bond type between Maryland and Gidea Park.

W. T. Henley's Telegraph Works Co., Limited, London, E.C.1, for installation of feeder cables, etc., in connection with the Colchester-Clacton-Walton electrification.

Air Pumps, Limited, London, S.W.20, for 13 mobile air compressors.

Substantial Orders for New Decca Radar

Within a fortnight of the introduction of its new D7 Series marine radar, Decca Radar, Limited, has received over 170 orders from 10 countries, including Canada and the U.S.A. Among the operators who have specified D7 equipment for vessels in their fleets are the French Line, the Holland-America Line, the Lord Line, the Blue Star Line and one European navy. The first British ship equipped with the Decca TM909, a true-motion radar and the highest-quality set in the new series, is the *British Statesman*, a 42,000-ton tanker launched this week for the British Tanker Company at Harland and Wolff Belfast yard.

TENDERS INVITED

THE following items are extracted from the Board of Trade Special Register Service of Information. Inquiries should be addressed, quoting reference number where given, to the Export Services Branch, Board of Trade, Leeson House, Theobalds Road, London, W.C.1.

December 5—Union of South Africa.—South African Railways for 46 items of OVERHEAD TRACK EQUIPMENT. Photocopies of tender documents from Export Services Branch, B.O.T., price 19s. (ESB/28836/58).

December 5—Korea.—International Co-operation Administration for 71 4-ton four-wheel-drive UTILITY VEHICLES, nine DUAL-PURPOSE VEHICLES and two steel-bodied AMBULANCES. Tenders to the Office of Supply, Government of the Republic of Korea, Seoul. (ESB/27460/58/ICA.)

December 8—Formosa.—International Co-operation Administration for 8,050 metric tons of CARBON STEEL RAILS, 37 kg. in 15- or 25-metre lengths. Tenders (quote in U.S. dollars) to the Central Trust of China, Purchasing Department, 68 Yen Ping Nan Road, Taipei, Taiwan. (ESB/27736/58/ICA.)

December 8—Korea.—International Co-operation Administration for 21 4-ton four-wheel-drive UTILITY VEHICLES, 27 7,000-lb. g.v.w. four-wheel-drive UTILITY VEHICLES, two 6-8 passenger DUAL-PURPOSE VEHICLES and nine MOBILE CINEMAS complete with 16-mm. projectors, all petrol-engined. Tenders to the Office of Supply, Government of the Republic of Korea, Seoul. (ESB/27267/58/ICA.)

December 15—Thailand.—International Co-operation Administration for four DUMP LORRIES. Photocopies of tender documents from Export Services Branch, B.O.T., price 8s. (ESB/28274/58/ICA.)

A Bedford in Europe

(Continued from page 5)

use than usual made of the easy all-synchromesh gearbox to avoid violent detonation until there was room in the tank for Continental Super-grade, on which the engine ran very sweetly. The vehicle also handled extremely well. On the typically rather narrow and steeply cambered French roads of the earlier pattern, many of which with anything but perfect surface still remain as national routes, it could be aimed confidently along the verge; similar praise is due for its sure-footedness over indifferent pavé encountered extensively in French and Belgian towns, some of it in very wet weather. But for the additional noise due to chattering sliding doors and front-end sheet metal (all reasonably quiet on good roads), the ride was as comfortable over pavé as on normal surfaces.

On Country Roads

The longest stage of the journey was the 320 miles from Chartres to Brussels, which was a comfortable day's journey even on the mainly second-class roads of the route selected through Etampes, Fontainebleau, Sézanne, Rheims and Rocroi, and this was covered at an average speed (driving time) of 35 m.p.h. for a petrol consumption of 30 m.p.g. Again in Brussels accommodation was difficult and after one night at one of the exhibition motels, it was decided to move out to Ostend and operate from there—a quite simple operation when a mere 72 miles of lightly trafficked motorway separated our hotel from the gates of the exhibition. This involved a further 200-odd miles of sustained high-speed driving with rather dire effect on fuel consumption. Even so, the final check on arrival in London showed that over 1,275 miles fuel consumption had averaged 28.1 m.p.g.; a very creditable performance.

SHIPPING and SHIPBUILDING

Convenience Flags in Liner Trades

IN a paper which he presented in London last week assessing the prospects for British shipping, Mr. R. D. Ropner, president of the Chamber of Shipping, inevitably referred to flags of convenience. Here, he said, were a number of countries with no traditional maritime associations emerging as nominal owners of a large block of tonnage. By virtue of this technical ownership they might be able to participate in international discussions and to affect by their vote both maritime law and maritime safety regulations. The prospect of countries such as Liberia and Costa Rica being used as pocket boroughs to influence international shipping affairs might seem fantastic—but nevertheless there was that possibility.

He feared that Panhonor owners would turn their attention more and more to the liner trades when the market improved. No international solution was possible without the active co-operation of the United States, whose interests owned 40 per cent of Panhonor tonnage. Mr. Ropner said that some countries openly quoted American legislation as justification for the flag discrimination on their part. In its initial stages the rule that 50 per cent of freight should be carried by American ships was applied to gift or aid cargoes. It became increasingly difficult to distinguish some transactions now subject to it from normal commercial transactions. Some progress had been made in checking the practice by member countries of O.E.E.C., but most countries outside it now almost automatically included a restrictive shipping clause in trade agreements with one another.

Of the boycott of flags of convenience ships declared by the International Transport Workers' Federation, to take effect on December 1 to 4, Mr. Ropner said the International Shipping Federation opposed the boycott for two main reasons. The first was that it would involve a breach of national collective agreements and in some cases of national law. The second was that the tonnage under flags of convenience would not be diminished to any significant extent by collective agreements on employment conditions. The advantage of flags of convenience lay essentially in lower taxation, not in bad employment conditions. With those views British shipowners were fully in accord.

Hull Port Charges Scheme

ALTHOUGH pressure on certain of the port facilities in Hull has at times been such as to give cause for concern, the acute congestion evident on occasions in past years has not been seriously experienced, states the annual report of Hull Chamber of Commerce and Shipping. The B.T.C. has announced the introduction of separate schemes for individual ports and the intention is that the scheme for Hull docks should be the first to be produced and put into force. The likely impact of this individual scheme (says the report) on the current and foreseeable level and pattern of port charges has not yet been fully ascertained, but it is more than probable that it will include proposals considerably to uplift charges in certain directions. There has been no evidence that the Commission is at all likely to abandon its previously announced endeavours to impose an overside charge and of eliminating the principle of unlimited free water for small craft.

FINANCIAL RESULTS

NOTES on the trading results, dividends and financial provisions of companies associated with the transport industry are contained in this feature, together with details of share issues, acquisitions and company formations or reorganisations.

Seddon Diesel Vehicles

Seddon Diesel Vehicles, Limited, reports that profits were £48,780 (£98,194) for the year ended June 30, 1958. Net profit, after tax, was £49,059 (£21,102). The number of shares issued was 1,125,875 (£36,794), balance forward £100,857 (£100,056).

George Cohen 600 Group and G. Beaton

The George Cohen 600 Group, Limited, announces that its offer to acquire all the 1,600,000 shares in the capital of G. Beaton and Son, Limited, at the price of 45s. per share, has been accepted by the holders of more than 91 per cent of the shares and the offer has accordingly become unconditional.

Barton Transport

Barton Transport, Limited, is paying 12½ (10) per cent on its deferred capital for the year ended September 30, 1958. Net profit, after tax, was £49,059 (£21,102). The number of passengers carried on the stage services fell appreciably, but express services and road cruises showed a decided improvement. In addition vehicles of higher seating capacity were used; one-man operation was extended where suitable.



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- ★ Perfectly-placed controls and precision steering ensure effortless handling and manoeuvrability.
- ★ New Commer 87 b.h.p. medium diesel engine fitted to 4-6 ton models.
- ★ Phenomenal 105 b.h.p. diesel engine fitted to 7-12 ton models.
- ★ Alternative six-cylinder o.h.v. petrol engine available on 5-7 ton models.
- ★ These underfloor engines provide a clear floor area and afford maximum cab comfort with heat insulation and silence.

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